

PLATE F.

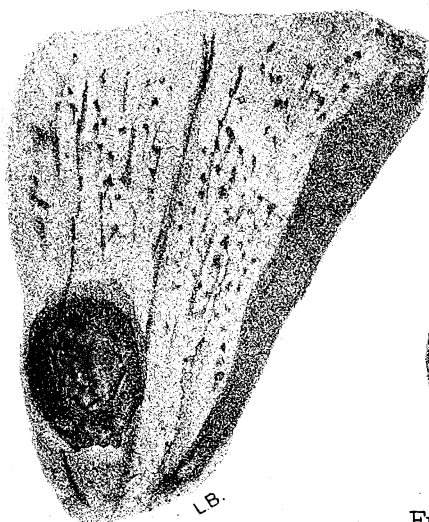


FIG. XXIII.
CHANCRE OF THE TONGUE.

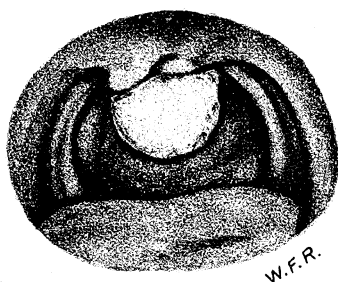
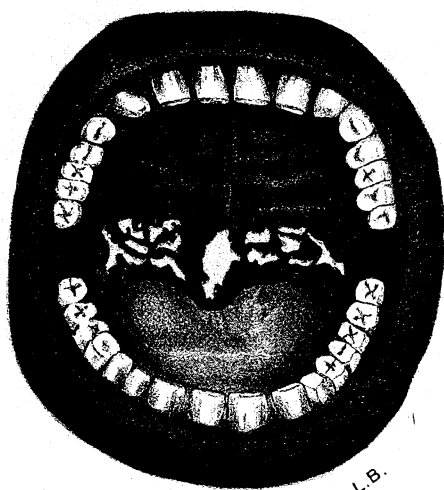
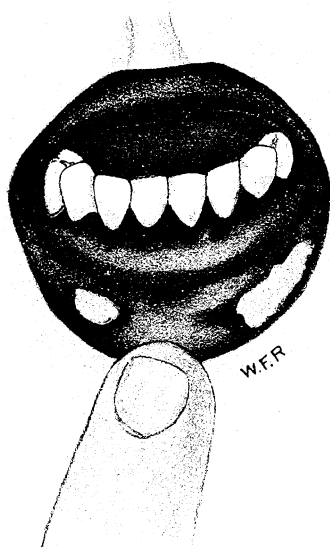


FIG. XXIV. SYPHILITIC ULCERATION
OF THE PHARYNX.



FIGS. XXV, XXVI. MUCOUS PATCHES. (LIP AND FAUCES)

PLATE G.

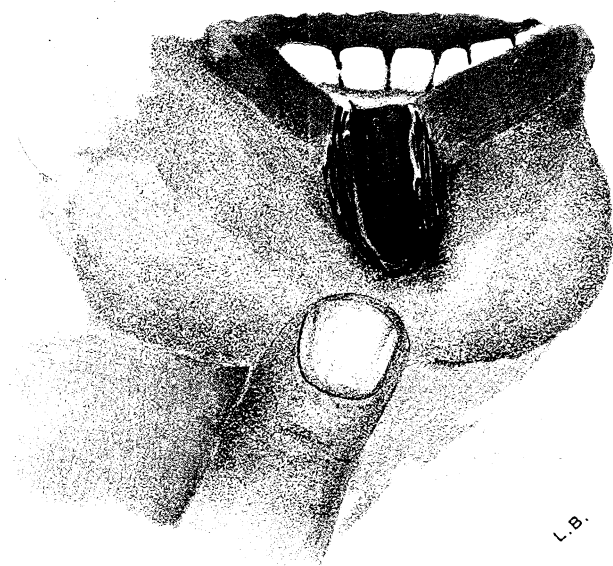


FIG. XXVII SYPHILITIC ULCERATION (TERTIARY)



FIG. XXVIII. TUBERCULOSIS OF THE TISSUES OF THE MOUTH.

ITEMS OF INTEREST.

VOL. XV.

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ORIGINAL COMMUNICATIONS.

ORAL DISEASES;

SURGICAL AND NON-SURGICAL.

By W. F. Rehfuess, D.D.S., and L. Brinkmann, M.D.

[CONTINUED FROM PAGE 138.]

STOMATITIS SYMPTOMATICA.

A symptomatic affection of the mouth is the manifestation of symptoms of an inflammatory character on the oral mucous membrane, caused by various maladies, particularly acute eruptive fevers.

The local lesions thus produced are usually some variety of stomatitis, varying from a simple catarrhal to a form of ulceration. In the majority of cases, these manifestations are markedly characteristic, resembling eruptions on the skin.

Thus in measles there is present a catarrhal stomatitis. The gums have a mottled red appearance, particularly over the palate and inner surfaces of the cheek. Sometimes the inflammation becomes general, the whole membrane becoming reddened and slightly swollen, covered with pearly white patches of proliferated epithelium. These become loosened as the disease progresses. After the active symptoms subside, the redness disappears, the tongue and gums then assuming a slightly bluish appearance. In variola the pustular eruptions appear on the inner surface of the cheek and tongue, occasionally forming small ulcers.

In scarlet fever, the changes in the membrane are sufficiently characteristic to be easily distinguished. At the commencement of the fever the tongue becomes reddened at the tip and coated white. Enlarged papillæ project through the coating. Within a few days this coating disappears, the surface assuming a strawberry-like appearance, deeply reddened, studded with large shining

papillæ. The breath, in the early stages, is sweet, almost aromatic. If ulceration occurs it becomes fetid.

These local manifestations are secondary to the primary cause, and this must be remembered in their treatment, which is governed by the character of the inflammatory condition. The treatments given in the preceding chapters will doubtless suffice to remedy any local manifestation on the oral mucous membrane that may occur with eruptive fevers.

SYPHILIS.

The symptomatic varieties are, syphilitic sore throat (*angina syphilitica erythematosa*), mucous patches and gumma. That no confusion may result, these will be considered under the head of venereal diseases of the mouth.

TUBERCULOSIS.

(Plate G, Fig. xxvii.)

Tuberculous inflammations with deposits in the oral cavity are manifestations of a general tubercular system, and never occur as purely local lesions.

When the tubercular ulcer first appears, it is superficial and often multiple, and may involve any of the structures of the mouth, though the tip of the tongue is more often the seat of ulceration.

The border of a tuberculous ulcer is ragged, sharply defined, and eroded, the surface of the base presenting a grayish-yellow appearance, with patches of white cheesy-looking masses spread throughout, and a few granulations may be seen springing up between the masses.

As the disease progresses the ulceration spreads, often penetrating entirely through the tongue, splitting it into two parts at the tip. An improvement in the ulcer can be expected only when the constitutional disease responds to treatment. A prognosis in such cases should be guarded, and given after medication has had a thorough trial. Internally cod-liver oil, hypophosphites, creosote, or guaiacol may be advantageously employed. Locally, a dilute solution of chromic acid can be used at times with benefit. It is also certain that tuberculous ulcers are aggravated by the administration of mercurials or anti-syphilitic remedies.

VENEREAL ORAL DISEASES.

This class of diseases embraces all forms of contagious sexual diseases and lesions that are manifested on the oral mucous membrane. There are three principal kinds, *viz.*: Gonorrhœal inflammation (stomatitis), syphilis, and chancre.

Gonorrhœal inflammation of the mouth is an extremely rare affection, and as yet no case if observed in the United States has been reported. Rodet noted eight cases which he believed to be oral gonorrhœa. Petrosie, of Kill, reported a case of a young man who had exposed himself by an unnatural connection. Four days later the mucous membrane of the mouth and lips became intensely red and painful, with slight recession of the gums from the necks of the teeth. This case was reported cured within one week by the use of an astringent mouth wash. Rollet observed two cases with a like history.

In the opinion of Holden, the condition is caused by the direct contact of the mouth with the genital organs. Hence the diagnosis is doubtful, unless the history of such unnatural connection is present. Microscopical examination of the discharge will show the presence of gonococcus of Messen.

The history of symptoms in the reported cases are at first a sensation of discomfort and slightly burning sensation of the entire oral mucous membrane, which has an injected appearance. This symptom appearing on the second or third day. The membrane then gradually becomes œdematous and deeply congested. Its surface may be bathed with either a grayish-white discharge, or there are present greenish-white patches of ulceration. In the more aggravated forms these ulcerations are seldom accompanied by much suppuration, though the ulceration may be deep. There is generally an increase in the buccal excretions.

Treatment.—For oral gonorrhœa it usually suffices to apply mild astringent mouth washes of alum water. In the more severe cases it is advisable to use a diluted solution of nitrate of silver (3 grs. to 1 ounce of water). This solution should gently be mopped over the whole surface. This is followed by the use of a boric acid and chlorate of potassium mouth wash three times daily. Care should be exercised that the membrane is in no wise irritated. Cleanliness and abstinence from alcoholic liquors are important factors in the treatment.

SYPHILIS.

(Plate F, Figs. xxix, xxv, xxvi; Plate G, Fig. xxvii.)

Syphilis involving the mouth may be either a local symptomatic condition or the primary seat of a general infection. When the local condition is a primary infection, it is caused by the direct inoculation of the virus through an abraded surface, and is generally the result of kissing, unnatural connection, or the use of

unclean instruments. It can only originate from a direct contact with the infecting material.

The symptomatic varieties are, syphilitic sore throat (*angina syphilitica erythematos*), mucous patches and gumma.

The primary sore or chancre of the mouth is the only lesion which can produce a systemic involvement. The symptomatic or local conditions are only secondary or tertiary to a general infection. The careful observance of a reliable differential diagnosis is an important factor in the recognition of syphilitic lesions of the mouth, as there is a liability of mistaking them for other diseases non-specific in character. Thus, the differential diagnosis between syphilitic sore throat, and of ordinary angina, and erythema due to other causes is, that in the former the *entire* fauces is involved and *livid in color* up to the junction of the soft with the hard palate; whereas in the latter the inflammatory condition usually occurs in patches. In the symptomatic or syphilitic sore throat, there is but little interference with deglutition, and no textural change is discoverable. The condition disappears spontaneously if irritating substances, such as tobacco, or liquors and condiments, are not brought in contact therewith.

MUCOUS PATCHES (*ANGINA SYPHILITICA PAPULOSA*, MUCOUS TUBERCLES).

(Plate F, Figs. xxv-xxvi.)

are an accompaniment of the secondary stage of syphilis. The papillæ of the mucous membrane become infiltrated, the overlying epithelium thickened, forming isolated patches which may or may not be slightly elevated above the surface of the membrane. They are sometimes confounded by the inexperienced with aphthæ. They are not confined to any particular locality in the mouth, but are more frequently seen on the lips (Fig. xxv), tongue, tonsils, underneath the tongue, and fauces (Fig. xxvi).

In appearance they are flattened, elevated patches, of a round or oval shape, with a broad base of a reddish color, and generally covered by a thin, grayish pellicle (plate F, Fig. xxv). They may also appear less raised and of a patchy appearance, whitish or grayish in color; as in the fauces (plate F, Fig. xxvi), called plaques opalines. These are not painful to the touch, but when irritated become sensitive.

If allowed to proceed to ulceration without treatment, several situated near each other may coalesce and form one large patch covered by a pseudo-membrane. They may also assume a serpiginous form. Again, on breaking down, they show a deeply

congested red spot covered with a pseudo membrane, which, when finally thrown off, leaves a deeply punched-out ulcer. These may heal spontaneously, leaving no perceptible microscopic cicatri. Mucous patches are a highly contagious form of syphilides, and hence it is very necessary to thoroughly sterilize all instruments brought in contact with them.

Unquestionably many of the reported cases of the inoculation of patients or the dentist, with the virus of specific diseases may be traced to this neglect, due to the dentist's non-recognition of the existence of a specific lesion of the mouth. Hence it becomes obligatory for him, both for his patient's and his own personal protection, to carefully examine and diagnose all ulcerations and lesions of the mouth. If, on examination, they prove to be of a specific character, avoid touching the lesions with instruments used on other patients, or in any wise bringing the fingers in contact with them.

The instruments used, afterwards, should be thoroughly sterilized in a strong carbolic acid solution, and by boiling; the hands of the operator carefully soaked and washed in bichloride of mercury (1-1,000). These precautions must be strictly observed.

Mucous patches may be differentiated from diphtheria, as follows:

Diphtheria.

- 1.—Onset painful.
- 2.—Difficulty in swallowing
- 3.—Onset acute.
- 4.—No general disturbance.
- 5.—Febrile temperature.
- 6.—Deposit general or bilateral.
- 7.—Tonic and antiseptic treatment.

Mucous Patches.

- 1.—Onset not painful.
- 2.—No pain in swallowing.
- 3.—Onset slow.
- 4.—General disturbance.
- 5.—Temperature normal.
- 6.—Deposits localized.
- 7.—Yields to antisiphalic and local treatment.

Treatment.—Mucous patches require both local and general treatment for their removal. The mouth must be kept cleansed, thoroughly antiseptic, as lack of cleanliness usually favors their development. The patches should be stimulated with nitrate of silver solution (grs. xl to 1 ounce of water), or sulphate of copper. Care is to be exercised to have the part to which the solution is applied thoroughly dried, to avoid spreading and unnecessary ulceration. In addition, solutions of listerine or permanganate of potassium are to be used, as an antiseptic and as a gargle, a chlorate of potash wash (ʒi to one ounce of water) three times daily, or alum or borax washes, and antiseptic treatment instituted.

CHANCRE (PRIMARY).

Chancre of the mouth (Plate F, Fig. xxiii) is not as infrequent

a condition as formerly. When it involves the tongue, it is usually found on the lateral borders near the tip, circumscribed and presenting to the touch a hard pea-like body, usually deeply situated. The surface is slightly elevated above the surrounding tissue, pale, and at times presenting a hazy appearance. It may also be of a dull dusky red color, with a raw and highly vascular surface.

Chancres of the mouth are usually larger than in other portions of the body, having been reported as attaining the size of a silver half dollar.

If the chancre is situated at the junction of the skin and mucous membrane it then has the appearance of the so-called mixed sore (chancroid and chancre), its surface presenting a grayish ulcerative patch on that portion occupying the mucous membrane, while the skin surface is crusted and scaly, surrounded by the true Hunterian zone of induration. Barber's chancre is the name often applied to this variety.

Chancres of other portions of the oral cavity present the same general appearance as above given, with the exception of the tonsil, which, if the sore is well developed, causes an increased blood-supply to the part and a corresponding enlargement of the gland, with interference in swallowing. Chancre of the oral cavity, like elsewhere, causes a non-inflammatory swelling of the lymphatics and other glands in its vicinity. These seldom have a tendency to undergo suppuration. The glands usually involved are the sub-maxillary, sub-lingual, and the anterior or posterior cervical chain.

Epithelioma may be confounded with chancre of the lip, involving the skin and mucous membrane; also, the tongue, for like them, it is followed by enlargement of the glands in the neck.

The history of the case will simplify the diagnosis. In chancre, no pain, rapid development; secondary symptoms following; disappearance under proper treatment. In epithelioma, the growth is slow; may, or not, be painful; glandular involvement later.

Ashurst gives the following differential diagnosis between chancre, aphthæ, and (ulcero) membranous stomatitis:

<i>Chancre.</i>	<i>Aphthæ.</i>	<i>Ulcero-Memb. Stomatitis.</i>
1.—Solitary lesion.	1.—Slightly ulcerating.	1.—Rarely involves tongue.
2.—Edges decided red color.	2.—Whitish patches.	2.—Yellowish ulcers.
3.—Induration.	3.—No induration.	3.—Involves gum and cheek.
4.—Deep ulceration of the floor, often covered with a grayish membrane.	4.—Rarely isolated.	4.—Ulcers oedematous and fungous.
5.—Enlargement of sub-maxillary and sub-lingual glands.	5.—Painful.	5.—May have the glands around the seat of the trouble enlarged.

Chancre may be diagnosed from tubercular ulceration as follows:

Chancre.

- 1.—Solitary lesion.
- 2.—Induration.
- 3.—Enlargement of sub-maxillary and sub-lingual glands.
- 4.—Removed by antispecific treatment.

Tubercular Ulceration.

- 1.—More often multiple.
- 2.—Not confined to any part, but liable to extend.
- 3.—Intensity varies according to the general systemic involvement.
- 4.—Aggravated by mercurials, and potassium iodid, but improves with the general tonics.

Treatment.—Chancres of the mouth should receive active treatment from the outset, as contact with them may cause the infection of innocent persons.

The general treatment should be directed towards the maintenance of the health of the patient, using tonics, regulation of diets, rest, abstinence from intoxicating liquors.

Of most importance is the administration of mercurials, or the mixed treatment of the bichlorid of mercury and the iodid of potassium. If salivation ensues therefrom, discontinue the mercury, using the iodid of potas. alone. In serious cases, the inunction of the body with oleate, or ung. hydrarg., can be resorted to. Locally, use an antiseptic wash of listerine and chlorate of potash. The sores may be treated with silver nitrate solutions, or with nitric acid.

GUMMA (GUMMATOSA SYPHILIDE, SYPHILOMA, GUMMY TUMOR, ETC.) is the formation of round or flat tumor, slightly raised, having its origin in the subcutaneous tissue. It is a later manifestation of syphilis, commencing as a small pea-size deposit beneath the skin, gradually-increasing in size. From the natural color it turns to one of a pinkish or reddish. Symptoms of syphilis are nearly always present.

Gummatous inflammatory deposits in the mouth are most likely to attack the tongue, and therefore have received the name of *gummatous glossitis*.

Gumma, involving the tongue, simulates abscess, strumous deposits, medullary or scirrhus carcinoma; though the last two named conditions are extremely rare and difficult to diagnose. Like abscesses the gummata breaks down and discharges a watery material from its surface.

Gummata, or nodes of the tongue, increase in size slowly, till the health of the person afflicted therewith is profoundly depressed from the syphilitic virus, when they break down and leave deeply excoriated ulcers.

Treatment.—Gummatous glossitis being a late manifestation of syphilis is benefited by large and gradually increasing doses of the iodid of potassium. In some cases the effectiveness of the iodids is increased by the addition of mercurials. The ulceration should be bathed frequently with a mucilagenous mouth wash, such as one of marshmallow. The wash is kept in the mouth for several minutes, thus having a soothing effect. For superficial ulcerations a dilute solution of nitrate of silver or sulphate of copper should be applied, in addition using a mouth wash of boric acid and chlorate of potash.

All forms of oral venereal diseases, particularly syphilis, belong to the domain of the physician's practice, and to him should be relegated for treatment.

(*To be continued.*)

PORCELAIN CROWN- AND BRIDGE-WORK.*

Dr. E. Parmly Brown.

It is not a question of whether a permanently attached denture to restore lost teeth is the proper thing. That has passed. The question now is, What kind of bridge or crown is the best for each patient?

The fact that most dentists are not inserting bridge dentures, is no proof that a large majority would not be practicing the art if they were skilled in it.

The broad-minded practitioner diagnoses his cases and selects from a large assortment of methods the best treatment of each case; the man of one idea always has gold for filling, or always amalgam, or always gutta-percha, or always the zinc oxid cements.

The same may be said of bridge- and crown-work.

The bridge worker who always cuts off his pier teeth is circumscribed in his knowledge and usefulness in the art; ten cases pass him by unattended to where he operates on one; lacking, as he does, the hardihood to attempt the destruction of good teeth for piers, or failing to get the consent of the patient to attempt such a rash proceeding. The reasons are obvious to bridge workers; a few cases of denuding fairly good teeth of their enamel, with pulps alive, to make ready for their capping; or amputating such teeth for piers for bridges, satisfy the operator, and he shrinks from any

*. Read before the Ill. Society.

more of that kind of work, which brings more curses than compliments from the patient.

The practice of inserting from one to four or five teeth into gold or amalgam filling attachments will broaden the field of usefulness of the operator.

To say that you have seen failures of filling holding bridges in place for any great length of time, as an argument against the system, has the same weight as the assertion that you have seen fillings fail, as argument against the wisdom of filling teeth.

I recently extracted a very loose left upper central, from the mouth of a clergyman in New York, in the presence of another dentist, on account of root absorption, the living central had attached to it and to the living cuspid, anchored into gold fillings, a lateral incisor bridge, a porcelain gum plate tooth with soldered gold backing and cross bar; this bridge had been in its place without repair for eighteen years, having been inserted in 1874 in Salt Lake City by Dr. Calder.

With modern solid gold and improved gold alloy fillings, and most cases more favorable for good attachment than this presented, who can longer have doubts of the great possibilities of the future in this line?

The fact that your essayist has inserted over a thousand bridges mostly by filling attachment, many of them having been in about eight years, and most of them being under his inspection, accounts for his faith in the practice.

The beginner, who with doubts and misgivings fails in his attempts, does not prove that one cannot succeed who has become expert by years of study and practice.

Ten years experimenting with porcelain for crowns and bridges has made your essayist a firmer believer than ever in porcelain for most cases; very often using gold crowns for single teeth or roots, or piers for bridges where not in sight; and once in a great while a gold bridge where indicated.

The improved porcelain bridge should rest firmly on the ridge, the surface in contact with which is constructed with a platino-iridium swaged plate, the cross bar and tooth or teeth being first soldered to the plate with pure gold as in continuous gum work; a moderate amount of tooth body first applied, and baked, then full contour obtained at the second baking, gum enamel to finish if necessary, at lower heat, at which baking any small crevices could be filled in with English body, which fuses at about the same heat as American gum.

Soft platina caps for ends of roots, either for single crowns or bridge piers (as designed by your essayist), where caps are indicated, are made by fitting band, soldered with pure gold, and cut into slits as far as the end of the root, then this aggregation of points is burnished or pressed, one at a time, on to the end of the root, taking its exact form, however irregular. The pin is then pressed to its place, waxed, invested, and soldered with pure gold, unless a porcelain crown is being used with pins, then soldering is not imperative, baking without soldering being sufficient.

The porcelain denture when completed is as cleanly as the natural teeth. It is nearer to nature in form and appearance than any work your essayist knows of, and he is satisfied that in the near future, when the facilities for doing the work are to be had, and the dentists become conversant with the art, that it will be a delight to patient and operator as well as a profit to both in every way.

The difficulty of the work will tend to increase fees; for that which is easy to do most anybody can do, without much study or effort, and therefore will be done cheaply.

If the essayist could not have porcelain bridges, he would be putting in good bridges made on swaged platino-iridium plates, fitting close to gum on ridge, teeth backed with platina, caps made of platina, bars of platino-iridium square wire, all soldered with pure gold, cap crowns made also of platina, and pure gold flowed on them for appearance.

The contour of this structure to be restored as much as practicable to natural form. This would have some of the points of perfection of the porcelain work, lacking mainly in artistic appearance, lacking some in natural contour, some in strength, some in cleanliness, and much in economy of metal and labor. Six points of advantage claimed by the porcelain work over the metal work described, which has the advantage of the ordinary gold bridge that does not rest firmly on the gum, in several respects, principally in the additional support obtained by so resting.

These gold bridges I would insert as I do now the porcelain bridges, mainly with filling attachments, some cemented to root piers, and some to cap crowns.

The question of solid gold fillings to anchor bars, extending from bridges into cavities in pier teeth, is solved by using the Bonwill electric mallet, with current from the Edison circuit if possible, if not a strong battery, or the next best force to thoroughly condense the gold.

The tooth to be braced at first by heavy retaining instrument held in left hand till the filling is anchored, then the tooth should be braced by an appliance devised by your essayist, which he has used for several years, made of a bar of tin pointed and curved properly to hold against the tooth malleted on, held either by left hand of operator or by an assistant, which bar is suspended by cord and counterbalanced from above, or to be held in hand only.

This metal bar takes nearly all the force used in condensing, and holds the tooth rigid to make the force applied more effective.

The necessity of solid gold fillings to anchor bridges, brings the operator up to a higher standard of well anchored and solid gold fillings for all his work.

The most tasty, esthetic, unique, expensive notice and program for a dental meeting is just received from the Central Dental Association of Northern New Jersey, meeting at Newark, February 20th. Talk about advertising dentists!—this is the most elaborate advertisement we have ever seen. Talk about chromos to attract!—this beats all. These are all good-looking dentists; we cannot recall an exception, except—and he has such a smile that makes his very bones symmetrical. No wonder they are not ashamed to send us their pictures—that is, of the officers. They would have put the phizs of all the society on had there been space; cost was no hindrance, for they are all rich. But here are nine, and they are certainly high-toned—that is, the pictures—yes, and they are high-toned gentlemen, too. We know them, and have a good mind to go to some of their banquets, and—well, we could eat their delicacies and enjoy their intellectual feast, if we would have to eschew their tobacco and wine.

A good mouth wash is :

R.—Aq. dest.....	3j.
Tr. kramaria,	
Tr. caticu.....	āā 3ij.
Acid carbol.....	gtt. ij.
Aq. calcis.....	3ij.
Aq. cologne.....	qs.

Signa. Use for a mouth wash.

THE MATRIX.

Dr. A. I. F. Buxbaum, Cincinnati.

Dr. Blaisdell says :

The most innocent-looking instrument used by the dentist is probably the matrix, yet how many who use some of the many forms think of the danger lying hidden in it when working gold. The closer the matrix fits the tooth the more trouble. Here we have the same difficulty as with the undercut, only in a more dangerous position. Is it not bad practice to use one of the many forms of matrices that are held in place rigidly by any form of screw or wedge? Much more durable would the filling be if the matrix was a simple strip of watch-spring steel held in place by the fingers, or tied in place lightly by a piece of floss silk. The good principle of such a matrix is that when pressure is given the gold there is slight give to the matrix, the gold is forced and condensed to a small extent beyond the margin of the cavity ; then when the cavity is filled and the matrix removed, you have a chance to do more condensing around the edges with the burnisher, which adds much life to a gold filling.

Shall we be thrown back on the resource of a metal strip loosely applied to a tooth, or shall we resort to one of the many methods which firmly assist to restore the broken walls of a cavity? Why encumber ourselves with a matrix constantly requiring the care of the operator, which shall call the eye from the work and monopolize the use of his fingers, which could be doing service in other directions? Again, is a gold filling better introduced by means of a simple strip of watch-spring steel held in place by the fingers, or tied in place by floss silk than by a stable article, yet possessing springiness? We have in the use of all matrices, if properly adjusted, sufficient give when pressure is made. But here is the question: At what stage of the filling shall we adjust the matrix? How shall we adjust it? I never use one at any stage, if I can avoid it, I prefer to have a clear, unobstructed view of the margins of a cavity, but there are times when most of us are compelled to use a matrix. The matrix should not be looked on as an instrument to assist in holding the filling. A gold filling should depend on nothing but the walls of the cavity, unless it be a tooth so broken down that a screw is necessary. A matrix should be regarded as an assistant for proper contouring, and to shorten the work, and avoid too much waste of material, and unnecessary dressing down in the finish of a filling. Therefore, I introduce, in all cases, even where the tooth is destroyed to the gum line or beyond (in which case I wedge away the soft tissues by astringents on cotton), gold or other metals at the neck of the tooth or cavity,

first filling my retaining pit or undercut, and covering the enamel margins at the neck and surfaces before applying the matrix. Thus, I have relieved myself of the worry and anxiety on that score. If the matrix be now firmly and closely applied, there will remain, after completing the filling (depending always on my gold cohering to gold already placed, and not on the matrix for support), *sufficient* gold extended beyond and around the margins for proper contouring when dressed down. Do not depend on burnishing, but fill in such a manner that no burnishing will be necessary. I must admit that I never use a burnisher in the manner that Dr. Blaisdell speaks of. The matrix which will firmly and with sufficient springiness adapt itself to the contour of a tooth, and yet be easy of adjustment, and not obstruct the light, nor require the assistance of the fingers to hold it in place, will be the matrix desired, provided you first fill the cavity at the neck before applying it.

RAMBLE IN SOUTH AMERICA, No. 2.

Since the appearance of my first "Ramble," I have received a score of inquiries in regard to dentistry in South America. Allow me to answer them through the ITEMS.

MY DEAR BROTHER DENTISTS:—I am glad to see so many of you willing to become martyrs in so good a cause; and as it has been through my "gilt edge" article in the January ITEMS which has inspired you, I feel in duty bound to give you the plain, unvarnished facts. If any of you think you are the man to succeed, knowing the drawbacks which are to be encountered with the benefits to be derived, then I say, try it, and go in with "a heart for any fate" and you will succeed.

In the first place, a knowledge of Spanish is indispensable, not that you need be a Spanish scholar, but you should be able to understand and make yourself understood.

Next, you should provide yourself with a traveling outfit, as none of the towns in the interior would support a permanent dentist, and it would be necessary for you to work a town and then take the next. Lay in stock enough to last you a year, for you will find it almost impossible to get any materials after you get into the interior. I paid \$5 for freight alone on an eight pound can of plaster from Caracas to an interior town, only fifty-six miles.

You must not be afraid of fevers. If you are, stay at home; for you will not find a town in Venezuela (unless it be on top of

the Andes) where there is not yellow fever, and about 60 per cent of the deaths on the Llanos and on the coast are due to fever. I have been in towns where they claim it is suicide for a foreigner to venture, but I happened to live through it, but I would not go there again for all the gold in the country.

Make up your mind to endure privations which you *never dreamed of*, and *then* you will find your imagination fall far short of the reality. I have lived two months without tasting wheat bread, but all these things seemed to be life for me, as I came to South America chronically sick and I am now almost entirely recovered.

Now a few plain words.

A man who drinks spiritous liquor should not be allowed to practice dentistry in any country, and this country seems naturally to provide against it. A man using liquors, coming to this country, usually lives about six weeks. Since I wrote my former letter I have met two American dentists here in Caracas, both broke, and on the verge of delirium. God grant that no more of that calibre may curse this or any other country.

To come to Caracas, La Guaira, Porto Cabello, or Maricaibo, take the red "D" line of steamers at Pier 36 East river, New York. Fare to any of these places, \$80.00; expenses at the port, landing, etc., about \$50.00; expenses here \$6.00 to \$10.00 per day; traveling in the interior, \$1.00 per mile on an average.

LAWS OF VENEZUELA.

The laws of Venezuela require all dentists to pass an examination. This examination is made by a board of five, two dentists, three medical doctors, and costs the applicant \$50.00, which is not returnable. It is *invariably* in Spanish.

Now you are in possession of the rough side of it, and if you have backbone enough to face it, *you* are the one to come here and you will make money in spite of all the drawbacks. I came here ignorant of all this, but I did not come to make money in my profession, yet I have taken it up to occupy my time, and have found all things as I have described them. And yet all may not do as well, every one in his sphere. Some may do better, but others would not do well at all.

I hope to return to Washington in a few weeks, and will be glad to speak personally with any one interested.

M. F. Phillippi, Caracas, Venezuela,

Late of the Dental Department, National University.

THE USE OF GUTTA-PERCHA.

Prof. C. D. Cheney, Philadelphia Dental College.

Gutta-percha stopping as prepared from the pure "chips" and oxid of zinc in the proportion of five of oxid to one of "chips," by weight, thoroughly incorporated at a temperature of 212 degrees, cannot be improved on. It is neither sticky, nor is it too hard; it softens at a moderate heat and, if not contaminated by dust or handling, it welds perfectly; it is non-irritant in a degree equal to any filling material, and in a higher degree than many substances and solutions which are recommended for use over bare pulps. It is incorruptible, non-absorbent, a non-conductor of all the materials used in filling teeth, and most compatible with vitality and comfort. It does not expand enough to fracture the merest shell of a tooth, though the *amalgam covering* sometimes used to prevent wear may expand enough to burst such a shell.

Gutta-percha is not a permanent filling *per se*, except in the most secluded locations, as in buccal cavities of the third molars. Here I have seen it last for years. By the judicious use of gutta-percha, under metal, it is permanent and comfortable. I cannot see its advantage for lining cavities. By the skilful use of ball burnishers of suitable sizes, it is, if desirable, easy to line a cavity by using a pellet, which is gradually "rolled out" over the interior. There is no difficulty in filling a nerve canal by using an elongated pellet and a blunt-pointed exploring instrument. I have never had trouble from pushing the filling through the apex. In large molar cavities I usually pile up a dome of gutta-percha in the center, nearly to the surface, and then fill in around and over it with amalgam, thus making a non-conducting filling and getting rid of a large solid body of expanding amalgam. Again, in very frail molars, with pulp alive, I frequently fill the first fourth of the cavity with gutta-percha, then place over it a cap, made of air-chamber metal, as large as the cavity will admit. It should be warmed with some gutta-percha, and quickly, but gently, pressed down to place, and the filling then completed with gutta-percha. This constitutes a sort of probationary filling, which will do service after the cap may have become exposed by wear. There are occasions when the vitality of a pulp may be doubted, and the usual signs fail to decide the question,—a large pellet of gutta-percha, heated on the point of a burnisher, and applied on the dried surface of the tooth, will produce a quick response if there is vitality within. The most peculiar, and not the least valuable property of gutta-percha, is the

effect which it has on sensitive tooth cavities. Cavities which can be but partially excavated may be filled with gutta-percha, after being dried with alcohol and warm air, till the cavity is quite dry, and after six weeks to six months the work may be completed in comparative comfort with metal, with better chances of preserving the teeth. The greatest attainable dryness of the cavity and the remaining contents is a prime requisite to success. Use ball burnishers of several sizes and very thin spatulas.

AMALGAM BRIDGES.

TO MY BELOVED PROFESSION, GREETING :—Herewith you will find something more than an intimation of progress in dental science. The *Scientific American* of October 17th, 1891, gave comprehensive illustrations of the manner and direction of this forward movement which is of so high and valuable a character that I am greatly concerned as to the best way of extending its usefulness. It is the culmination, in victory, of a long continued struggle for excellence against innumerable obstacles. It is the crucial test and proof that the possibilities of amalgam for good in dentistry are boundless. Handing it over to inexperience and misuse would serve to bring it into disrepute, while skilful manipulation alone can develop its merits. The most frequent inquiry that comes to me now, from my patients is "When you are through with causeway building to whom shall we go?" As yet I am unable to reply. Dentists generally have no adequate conception of the magnitude and importance of this invention. For fifty years I have labored diligently to reveal and possess the wonderful things that it involves, and still there are limitless fields beyond for improvement. I purpose these good things shall pass only into worthy and capable hands; that their attainment and practice shall be limited to but few offices in the larger cities. To this end I will engage to teach such applicants all I know about amalgam, and confer on each the right to practice this knowledge, for a fee of three thousand dollars in the city of New York, and outside of this city for two thousand five hundred dollars, payable always in advance. It is mine now to labor and to communicate. The time cometh when no man can labor, neither can he impart.

J. W. Clowes, D.D.S.,
667 Fifth Avenue, New York.

THE MIXING OF RACES.

Heterogeneous races have by intermixture given rise to raceless masses, people which present no fixed characters, and which form dispersive circles around the original species, which at their points of contact become confluent.

Pure races exhibit a more uniform type, and the mixed races a variegated type, and this variation increases as the intermixture increases.

When we hear of a people which, despite a low state of intellectual culture, exhibit a variety in features, nose and lips, as for instance among the Tschuvashes, we shall not be wrong in considering it as of mixed origin.

The Samboes, descended from an Indian and negro, in the south of the United States, present sometimes crisp hair with copper-colored skin, and all other Indian characteristics, and sometimes the coarse hair of the Indian on the head of the negro, with a black skin. There is here no intermediate type produced by intermixture, but there is produced an irregular agglomeration of the characteristics of the parent forms. It might be demonstrated that the different races of the people of Northern Italy, Southern Germany, Great Britain, not to speak of the United States, where the fusion of blood is probably inexplicable, have given birth, by their intermixture, to ethnological modifications still recognizable. In all these countries the instability of anthropological characters is in contrast with the fixity which marks pure races.

The union of different nationalities is more common in this country than in any other, because people of all countries and nationalities flock here to better their condition in life. We would expect that marriages would naturally result from a commingling of these foreign elements, especially in the newer parts of the country. Immigration of different nationalities, and intermarriages which take place, tend to improve the race physically in some respects, and in others degeneracy results. Inasmuch as the tendency in this country is toward the production of small jaws, while the jaws of foreigners are much larger, the offspring of such marriages would naturally inherit the extreme peculiar characteristics of both parents. Such peculiarities are very noticeable in the tribe of Marshpee Indians on Cape Cod. The present people are descendants of the original Indian, who married among the whites, negroes, and Portuguese. These intermarriages have continued down to the present generation, making seven or eight generations in all, till,

as Professor Putnam, of Harvard College, has said, "there is very little Indian blood left." There are, however, three or four of the older people who still retain all the characteristics of the early Indian race. It is very interesting to observe the peculiar features of the younger generation, a few of which I will describe. A little girl, eight or ten years of age, presented all the peculiarities of the negro—broad nose, thick lips, dark skin, with the long, straight, black hair of the Indian, reaching nearly to her waist. Another, Mrs. H., whose mother is half white, father negro, is full negro in appearance, except the skin, which is copper-colored. The jaws are slender in outline, and quite unlike the father's. Mr. K.'s great-grandfather is negro; mother, Indian; father, three-fourths Indian. He has large jaws like the negro; long, straight hair, copper-colored skin, high cheek-bones. Mr. P.'s maternal grandfather is Portuguese; paternal grandfather, negro; paternal grandmother, Indian and white; maternal grandmother, Indian and negro. He has fine curly short hair, negro nose, high cheek-bones, large jaws and teeth, upper and lower teeth occluding. I could give from my note-book many other illustrations of these marked changes in bone-structure and also peculiar mixtures produced by the union of different nationalities, but enough has been said in regard to this tribe to show that when there is a union of different nationalities, the offspring inherit not only the peculiarity of one parent, but frequently possess a mixture of the peculiarities of both. A similar class of people made up of a union of Indians and negroes is located in South Carolina, and called by the people "Red Bones." They have been thus described in an interview with Senator Hampton:

They live in small settlements at the foot of the mountains, and associate with none but those of their own race. They resemble in appearance the gypsies, but their complexion is red. This intermixture, which is common to the Carolinas, produces marveious results. It takes the kink out of the hair of the African, strengthens his features, and improves him in every way except in temper.

These inherited peculiarities do not cease at the first generation, but are transmitted to at least the seventh or eighth generation, as I have shown in the cases of the Marshpee Indians. It would seem that, from these cases, race peculiarities under favorable circumstances might be carried on indefinitely. There is a tendency on the part of these Indians, due no doubt partly to the mixture of white blood and partly to the soil, climate, and environment, to take on the general make-up, as regards the osseous system, of the native white people. So far as my investigations went, I was

unable to observe the high vault, irregularity of the teeth, and the neurotic condition so noticeable among the native white people. While they possess the same facilities for schooling, they lead a very quiet life of farming, fishing, and out-door work generally.

The improvement of the "Red Bones" over the negro by "straightening his features," mentioned by Senator Hampton, must necessarily consist of a change in the bones of the face. These changes must be brought about by the union of the negro with the Indian, producing children not unlike those already mentioned in connection with the descendants of the Marshpee Indians. Americans are all familiar with the changes that have taken place in the features of the negro, due to their consorting with the whites. The lower jaw of the children diminishes in size from generation to generation, and the anterior lobes of the brain increase posteriorly, the vertical portion of the frontal bone assuming more of a right angle with the horizontal portion. In this manner the Octoroon and Quadroon possess in many instances beautiful features.

THE "ITEMS" PRAISED IN PARIS.

EDITOR ITEMS:—It will no doubt give you pleasure to learn that my article in the January ITEMS on "The Schism in the Paris Dental School" has been appreciated by one of the great founders of that school, Dr. Paul Dubois, who, together with seven other eminent "excommunicated" professors, is now serving the cause of dental science through the independent *Revue Internationale d'Odontologie*. M. Dubois writes:

I have been pleased to read in the ITEMS OF INTEREST the kind article which you have devoted to us. I thought that our pamphlets were not sent to foreign journals, and I was glad to see you had one. This was a great advantage, as it had served to prove that in the judgment of an impartial colleague the measures taken against us were unjust. I thank you in the name of my colleagues for your sympathy.

It is gratifying indeed to observe the truly international character of the ITEMS. I will only add that I have been prompted to do my part in the matter referred to by a burning sense of duty, and especially as an American citizen, who takes great interest in the dental and other affairs of France, the glorious country which has contributed the largest share to the most cherished treasures of Humanity, in art, science, philosophy and religion, and which has sanctified the right of men to hold and express their sincere convictions and opinions at liberty.

G. Randorf.

THE ART OF THINKING.

Did you ever notice how bunglingly some men think? There is as much difference in the way men use their mental facilities as there is in the way they use their tools. Just as one man will proceed deftly and systematically to the accomplishment of a piece of work with everything conveniently at hand, every motion intelligently directed to the furtherance of the main purpose, and an expedient ready for every irregularity or difficulty which presents itself, so the ready thinker proceeds at once in a right line to the pith of a subject, sifting out the extraneous matter, defining the main point, and bringing to bear on it all his available information. On the other hand, a clumsy thinker will chase a question up one side and down the other, without getting anywhere or arriving at any relevant conclusion.

The mental, like the manual faculties, are susceptible and require cultivation. It is only by practice and continual use that the dexterity and skill of the expert machinist or other manipulator are acquired. However naturally ingenious and handy a man may be, he will lack deftness when placed on work to which he is entirely unaccustomed. To think with facility a man must be accustomed to thinking. It is one thing to let the mind roam about among the things one knows, and another to put it hard at work and keep it there grinding at something you do not know, but want to. It is easy and entertaining to read an article which tells you something which you knew before and which you can indorse, but you learn nothing by reading it. It requires an effort to read an article which contains real information, however plainly expressed. It has to be studied, applied, digested, criticised; the suggestions raised by its perusal have to be followed out to their conclusions; and to conscientiously read an article of this character is a task which a man is inclined to shirk just as a lazy man might shirk a physical task. But compare the man who shirks with the man who reads, and you will find in the first a mental bungler, in the second the acute and able thinker, the man whose head saves his hands and who is valued, respected, and trusted with the conduct of work and the administration of affairs, and rewarded accordingly. Always read a little ahead of yourself. Read matter which requires an effort on your part to understand. The effort will not only place you on a higher intellectual plane, but the mental exercise will develop a habit of accurate thinking which will be of more value to you than volumes of average matter read only to be forgotten.

DENTISTRY ON THE HIPPOPOTAMUS.

Many scientists and newspaper men recently visited the winter quarters of Adam Forepaugh's shows, Philadelphia, to witness two operations in minor surgery on a major scale. For a long time past the hippopotamus "George" has been suffering with a bad tooth, which finally caused ulceration of the jaw, and to relieve him it was decided to extract the offending molar. How to do this was a question, and Mr. George W. Arstingstall, who has charge of this and the other immense brutes in the establishment, prepared himself for the emergency. He got together files, tongs, saws and pincers, and a quantity of chloroform, in case it should be needed, but the intelligent animal seemed to realize the efforts that were being made for its relief, and offered no resistance. After persuading it several times to open its huge jaws, and trying without avail to get his pincers on the troublesome molar, Mr. Arstingstall finally succeeded in securing a firm hold, and, with a dexterous wrench, brought out the offending tooth.

The animal is six or seven years old, is four feet high and ten feet long, and when his mouth is open exhibits a cavity two feet six inches from top to bottom, and eighteen inches wide, in which are displayed two long protruding tusks on each side of the lower jaw, with two lying close together, and ten inches long, at the bottom of the mouth, and four protruding from the upper jaw.

I find chlorid of ethyl especially useful as an obtundent when cutting sensitive teeth. With a piece of dam large enough to cover the nose and extending down over the mouth isolate the tooth, as it is important to prevent the inhalation of the ethyl chlorid, for it is a general anesthetic, and one whose properties are little known. Now break off the lip of the glass tube containing the liquid, and direct the stream that gushes from the capillary tube on the tooth to be operated on. In thirty or forty seconds its rapid evaporation will lower the temperature of the tooth sufficiently to make excavating painless.

In such operations I have my engine in position and everything ready to complete the excavating in as short a time as possible, as the local anesthesia will soon pass away.

I have also used this successfully for the painless extraction of teeth.

Edward Eggleston.

IMMEDIATE REMOVAL OF DENTAL PULP.—A completion of these cases at the first sitting is greatly to be desired, for when properly done, we know there will be no future trouble with that canal. The only thing that has stood in the way has been the exceeding painfulness of the operation. I have been successful in nearly all cases, by first applying the rubber-dam and cleansing the cavity as well as can be done without pain, when I saturate a pellet of cotton in a 15 to 20 per cent solution of muriate of cocain and apply to the cavity. After a little time the excavation may be continued, and in this manner, proceeding gently, the pulp may be exposed. The exposure should be so small that the point of a hypodermic syringe will barely pass. Then using the solution, freshly prepared, a few drops are quickly and forcibly injected into the pulp. The exposure can then be enlarged, and with a Donaldson *barbed* broach the nerve can be removed entire. Thoroughly cleanse and dry the canals and fill with clora-percha and gutta-percha points and complete the filling at once. See that the sharpened point of the syringe is not too long; if it is, cut it down with corundum in the engine to a very short but sharp slope, that the point need not enter very far to get the fluid into the tissue. If you have not tried this method, do so, and you will be surprised at the success you will have. Very flat canals are the most difficult but will not cause more pain than when arsenic is used, besides the great saving of time.

Robert L. Blakey, Brunswick, Mo.

I see most of the dentists replying to question 70 in February ITEMS think the tooth mentioned there will not come out to its normal position, so that the attachment of the gums to the neck of the tooth shall rise to the level of the gum of the surrounding parts. The continued contraction of the attachments at the neck of the tooth will draw the neck up to the level of the gum in nearly every case, unless there is an obstruction which prevents. This process has nothing to do with the development of the tooth. If there is any portion of the root that is not formed, the development of that part ceases when the pulp dies. But the contractions that will bring the tooth to its position will also bring roots of teeth to the surface of the gums till their removal is complete. From this same cause so many front teeth having Richmond crowns elongate and become unsightly, as the band was driven below the line of the normal neck of the tooth, and it is only a matter

of time when the edge of the band will, by these contractions, be drawn up to the normal position of the neck.

It is the same process that generally elongates the teeth in pyorrhea. The same process has a tendency to tip a front tooth over sideways when it is broken on one side far below the gum. Hence, the great care that should be taken to avoid any injury to the gums that may possibly cause them to leave the tooth, as it may produce an unsightly irregularity. The tooth should be crowned, or, better, an appliance attached to bring down to its proper position, and then crowned; the sooner the better.

W. H. Jackson.

I have a system of bridge-work which I term a rubber bridge. I construct it as follows: Proceed as in the gold bridge. I will take for example the four upper incisors. I make what is known as the window crown for the two cuspids. To these I solder a platinum barbed bar from one crown to the other. It is now ready for fitting on. I use plain or gum teeth as may be demanded. Articulate and try in the mouth, and if all right take the impression of it in position, after which make a cast of it, and you will find the work as it was in the mouth. Now flask as for a rubber plate, scald out all wax, pack in rubber and vulcanize. Take out and polish and cement on, as in a gold bridge.

There is nothing in the construction of the work new except rubber is used instead of solder and the gold, and its advantages over the gold bridge are these:

First. It can be made much cheaper.

Second. You avoid all liability of checking the teeth.

Third. You use such teeth as are used in rubber plates, and gold is not exposed to view.

Fourth. Should a tooth break it is easily repaired.

I have made many of these bridges, and my patients like them better than the gold bridge.

A. S. Phillips.

The present value of our dollar is 65 cents. It contains $371\frac{1}{2}$ grains silver. Superintendent Allen, of the Butte and Boston Mining Co., of Butte, Montana, offers the Government to make dollars containig 400 grains pure silver, at 90 cents.

CURRENT THOUGHTS.

SHOULD IMMEDIATE ROOT FILLINGS BE PRACTICED WHILE PURULENT CONDITIONS EXIST AT THE APEX?

Discussion in Odontological Society.

Dr. C. N. Peirce : This question, as stated, implies that there is some expeditious and comparatively certain method of either removing, or else rendering innoxious the previously existing or recently acquired purulent condition at the end of the root, other than by the usual one, of either antiseptics, disinfectants, escharotics, astringents, alteratives, counter-irritants, desiccation, etc., and that without the use of these remedies, and in disregard of the septic conditions, the root canal and crown-cavity can, immediately on the discovery of this previously estimated unfavorable pathological condition, be filled, and that sole reliance for subsequent comfort and success can be had through either systemic conditions or local recuperative power ; the inference being that this accumulated pus and septic condition which is recognized, is immediately, on the tooth being filled, to be either transformed into nutrient pabulum, building-material, etc., or else taken up by the absorbents and carried off as a waste product. I must confess that I have not confidence in unaided natural processes accomplishing these results, yet the inquiry on which this discussion is based may be answered in both the affirmative and the negative, the correctness of the answer depending entirely on the condition of the surrounding structures which are present at the time the thus affected root is to be filled ; for instance, an established fistula penetrating the process and overlying gum, through which the product of decomposition can find a ready means of exit ; and after the canal has been placed in an antiseptic condition filling is not only pardonable, but desirable.

Through the fistula the apex of such a root could be reached and the purulent condition as readily overcome or corrected as by the application of remedies through the canal, while by the immediate filling after these prescribed conditions were secured, the function of the tooth would be regained and the tissue at the apex protected from the danger of increased irritation by the ingress of foreign substances through the canal. On the other hand, if the conditions at the apex of the root are such as are frequently recognized, and the accumulated product kept at its minimum rate by

an open canal, then to close this means of relief and discharge without first checking its accumulation would, in my judgment and experience, result in an inflammatory condition which would be anything but agreeable to the patient, suffering continuously, till relief was gained by either an artificial opening or through the pressure of accumulated pus, or absorption gave relief with a natural fistula. One or the other of these methods must be adopted to terminate the inflammation which will, with few exceptions, follow the abrupt closing of the only means of exit. These exceptions would, of course, be only in such cases as where the absorbents were sufficiently active as to overcome the accumulation of the purulent product; in that case it would be carried off with other waste material, and the surrounding parts be thus freed.

There is another type where purulent conditions exist at the apex, and where, with a limited degree of safety, immediate root filling may be practiced. This is in teeth where the pulps had died without exposure. The cause of devitalization not being pertinent to the question, I shall not dwell on it. Decomposition of pulp has followed, with only a very limited degree of irritation in the pericemental membrane at the apex of the root, but yet sufficient to establish a thickening of this root-covering, with some exudation, but both have been controlled by favorable systemic and local conditions, with activity of absorbents. The canal on being opened into is found filled with a yellowish fluid, but the parts around the apex have for months, probably, tolerated this condition, and would for months, and it may be years, longer. The opening into the crown and root has been made not to relieve suffering, but to prevent further discoloration of the crown. In this case, or in most of these cases, it is quite possible to cleanse the root, dry it as completely as possible, securing an absolute antiseptic condition so far as atmospheric germs are concerned, and fill at once with little or no danger of subsequent unfavorable conditions; and yet such treatment is not desirable practice.

Now, in these several conditions which have been indicated, where undoubtedly a purulent product exists, the remote but at one time quite general practice was to fill immediately, and then with a drill make an opening into the root canal or pulp chamber from just beneath the gum margin. This treatment has saved thousands of patients from discomfort while they yet had purulent conditions existing at the apex of root, but is it good practice except in some rare cases?

Dr. Register: Since I have been using large quantities of hot

and compressed air in connection with atomization, my results in practice have been so different that I feel great good has been done, —certainly to my patients.

In regard to the question, I do not know whether it refers to indolent abscess or whether to putrescence in the pulp chamber. If it is to putrescence from divitalized pulp, and there was no fistulous opening, I should make use first of a germicide, and then arrange the dam in place and use the hot air in large quantities, so that desiccation is thorough, then fill it while it is in that sponge-like condition. I think that immediate root filling is indicated; certainly, from clinical experience. It has been my experience that it is good practice. It has been my impression that this carbonaceous matter that exists in a devitalized condition is the cause of the subsequent trouble with teeth of that character. Some have the idea that if the apex of the root be closed the trouble is avoided, but I think that is an error.

Dr. Thomas: It may seem presumptuous for me to say anything in regard to root filling where there has been a discharge either from the canal of the tooth or from a fistula. It has become a question in practice—How long is a dentist justified in treating that root to stop the discharge? Experience has accumulated in capping exposed nerves. It was advocated that the nerve could be capped and the tooth made perfectly useful, yet it was a common thing for patients to come to me suffering from this treatment. In a case of pericementitis the patient may not come back, and possibly septic matter may have infiltrated along the tissues and formed a fistula. The tooth is treated, but there is an increase of inflammatory symptoms, infiltration, and an other abscess. It may be treated again, but only after the formation of a fistula does the patient get relief; consequently there is no reason to visit a dentist, and probably there is no attempt to see one, and after awhile it has gone so far that the process between it and the cuspid tooth has necrosed and the tooth must be removed. Is it good practice, or how long is it justifiable in a dentist to continue with such a tooth? I would like to know whether you can make such a tooth healthy and do away with the discharge; or how long would it remain so, or how much security can you give the patient that it will be a permanently cured tooth? It grieves me to have a patient come for extraction with a filled tooth treated for abscess with a large fistula supposed to be cured. What can I do, and can I make it a well tooth? How long are you justified in treating it for that purpose?

Dr. Truman: It does not appear to me that there is anything in this question. It is, Should you fill a tooth while it is in a purulent condition? No; of course you would not. That is the only answer I would give to that question. But in the broader sense, as I presume it is meant, will you do anything to a tooth which has pus in the canal? Dr. Peirce has taken up that point and handled it very well; but Dr. Thomas has brought up another—Can we fill any tooth that has once had pus at the end of the root? I think you will agree with me, that pulpitis necessarily affects the pericementum. I do not think it is possible to have septic conditions in the pulp and not affect this membrane and increase further the development of pus; and wherever there is pus there must be destruction of tissue and a necrotic condition.

I have long entertained the idea that it was impossible to produce a healthy condition where pus has long existed at the end of the root. Immediate filling of such a tooth is, to my mind, impossible. We must change the conditions. If the root be necrosed, the dead tissue must be removed. If necrosis has not commenced, and the pulp is simply decomposed, it must be treated. Dr. Register says he accomplishes this by dry heat. I question this conclusion, as the heat required to destroy micro-organisms would destroy the tooth-tissues.

The whole territory of the dentine is filled with organic matter. It is in a decomposed state, and becomes a factor for future trouble. What is to be done with it? Years ago I recommended that it be coagulated, and that for this purpose creamy cement be used. It was said in answer that coagulation never would extend beyond the open mouths of the tubes. It has been demonstrated that it can be carried into the tooth. We can only proximate health in the treatment of many cases.

When the destruction of the pericementum has been reached, we have arrived at a surgical operation,—cutting off the end of the root.

Dr. Register: I rather hesitate to talk in reference to anything performed in my own practice. I offer the statement that I rarely at the present day have a fistula to treat. Only yesterday a lady came in to see me. She had a very bad molar and was in a very delicate condition. The central incisor had been treated for a number of years in the usual method. I operated on the tooth but once. It had a fistula and a gumboil at the end of it. I first washed it out with an atomizer, and after that by dilute sulphuric acid. I used this in about an eight per cent. solution, as a solvent to

dissolve the carbonaceous matter that filled the tubulated structure of the dentine. I then followed this with Labarague's solution. If it has a fistula it is given a treatment with acid of four per cent. solution.

I avoid using air intensely hot. The idea is to obtain thorough desiccation, and while in that condition to use some agent that will follow it up as a germicide. I have had a great deal of success with a preparation of from fifteen grains to an ounce of iodoform to an ounce of sulphuric ether. The odor is destroyed with oil of cinnamon. While the tooth is in this dry condition I saturate it with this liquid, and can immediately fill the canal with any preparation I prefer, either gold, or cotton saturated with cement.

Dr. Guilford: I would like to know whether there is any one here who would have his teeth filled while there is a discharge of pus from the roots? It seems to me we would not be justified in doing for a patient what we would not want to have done to ourselves. It is evident, as far as the discussion has gone, that we have lost sight of the fact that there is such a thing as pyemia. You remember how it carried off one of the Presidents of the United States. It is a serious matter, and I am surprised that it should be presented in this form. No one should think of filling while there are purulent conditions existing around the root.

Dr. Register stated that he did not mean to assert that he would fill a tooth having an indolent abscess. He desired it understood that he referred to a putrescent condition of the tooth canal where there was no indication of an abscess existing.

International.

Dr. Andrews says: I do not believe in over-treatment of root canals. My aim is to cleanse the canal as thoroughly as possible. I seldom treat more than three times. An excellent antiseptic is a mixture of oil of cassia, oil of wintergreen, and carbolic acid, combined. In filling the roots I use chloro-percha, and gutta-percha in the form of points, usually oxiphosphate over that, as I seldom fill the tooth permanently at this time. The filling is allowed to remain for six months or a year before permanently filling the tooth.

Dr. Stanton, President of the Harvard Odontological Society, spoke to me of his success in using oil of cassia combined with iodoform, and stated that he had had several difficult cases of abscessed teeth which he had succeeded in curing by this treatment. I use tann and creosote in root canals, and seldom have failures.

ITEMS.

Wherever collars or partial crowns are used for the support of bridge-work, the less of the tooth that is covered, to secure the necessary strength, the better it is for that tooth.

W. K. Slater.

* * *

Dentists who live in towns where there are no water works cannot wash the spittoon after each patient, but they can prevent foul smell from it, by dropping into it a handful of salt.

S. H. B. Cochrane.

* * *

Take base-plate gutta-percha, dissolve in chloroform, allow the chloroform to evaporate, and you have a gutta-percha for temporary stoppings superior to the usual base-plate. *Dental Tribune.*

* * *

Physical righteousness means obedience to the laws of health; means, among other things, exercise, rest, and the avoidance of overwork. There are many persons who are morally righteous and physically unrighteous.

Christian Union.

* * *

One need only to study "The Geometrical and Mechanical Laws of the Articulation of the Human Teeth," by Dr. G. W. A. Bonwill, to be humiliated by his past efforts, and inspired by the possibilities that lie before us in this much-neglected branch of our profession.

W. H. Ginrich.

* * *

The truly competent dentist who is a born mechanician will seldom have to resort to a crown of any kind. The more we look at the subject we will find that dentistry is a medley, and no man can be competent to practice it who has not been educated in all its departments to do one as well as another. *G. W. A. Bonwill.*

* * *

Rubber bands, tubes, etc., that have lost their elasticity and easily snap, may be restored by steeping for half an hour in dilute water of ammonia (aq. ammonia, 1 part; water, 2 parts).

* * *

Where it is found imperative to remove the sixth-year molars, it should by no means be done till after the full eruption and occlusion of the twelfth-year molars.

Benj. Lord.

Sitting in my quiet office I was attracted by the noise of something striking sharply on the floor. This proved to be an exploded molar. The bound of the two pieces was three feet from where the whole tooth had been placed, striking on the floor. The tooth had been extracted about twenty-four hours, and the disruption was, I suppose, the result of contraction in drying. Such cases may be common but it is new to me.

Congratulating you on continued improvements in and usefulness of ITEMS OF INTEREST. *H. A. Robinson, Foxcroft, Me.*

* * *

We have an old lady, 120 years, who claims to have cut three sets of teeth. I would like to know what you think of it.

C. S. Allred, D.D.S.

[The claim of age and the three sets of teeth are probably a mistake. We have never seen either verified in man or woman, though we have seen many claims for both.—ED. ITEMS.]

* * *

I have just seen an instance of the injury of allowing little pieces of amalgam to lodge between the teeth when filling proximal cavities. A piece thus left between the teeth has sunk into the alveolus, causing severe and constant soreness and slipping of the alveolus. The young man supposed it was an abscess or ulceration from poison, but it proved to be only the irritation of a piece of rough amalgam left there when filling a cavity. *J. F. Steele.*

* * *

Dr. Sargent estimates that the pursuit of out-door sports is limited to probably less than 1 per cent. of our vigorous young men. Even among the members of athletic organizations only 10 per cent. are really active. Dr. Sargent attributes the increasing lack of interest in athletics to the growing tendency among Americans, as a people, to pursue sport as an end in itself, rather than as a means to an end. In making excellence in the achievement the primary object of athletic exercises they are robbed of half their value in various ways; for instances, by increasing the expenses of training; by the devoting of too much time to practice; by reducing the number of active competitors; by relying on natural resources rather than on cultivated material; by depriving the non-athletic individual of incentive to physical exertions; by depriving the exercises of their efficiency as a means of health. Dr. Sargent holds that the harmonious development of the physique and the building up and broadening out of the highest types of manhood and womanhood ought to offer inducement enough for each to work.

INTERNATIONAL REVIEW.

By George Randorf.

SADDLE NOSE CURED BY A DENTIST.



FIG. 1.

Two interesting cases under the above head, from Prof. Åyräpää's recent book, are as follows :

The patient, a man, twenty-four years old, had a depressed nose, and a portion of the upper maxilla and upper lip were destroyed by syphilitic poison. The back of the nose was completely fallen in, and the wings pressed to the separating wall. The skin of the separating wall was still present, but a piece was missing

from the middle of the upper lip. Breathing through the nose was impossible, as shown in Figs. 1 and 2.

With a blunt instrument I endeavored to lift those parts where the mucous membrane had grown fast, or where the passages of the nose were stopped. With my little finger, which I had deep in the nose, I raised the back of the nose.

To measure the inner nose, I pressed through the left nostril softened gutta-percha; and through the right, my little finger. In this way the gutta-percha fitted itself to the nasal wall. To prevent their too great expansion, I supported it with my other hand. Then I filled the right nostril with more gutta-percha, now moistened with glycerine. After the gutta-percha was hardened I removed the part introduced later through the right nostril, and also the superfluity from the left. The glycerine was used to prevent both parts from adhering, and to facilitate their removal.

The removed parts were then joined together. Such portions as were compressed too much were cut



FIG. 2.

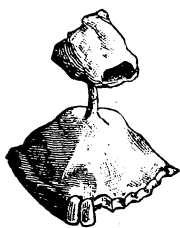


FIG. 3.

off, and the impression of the inner nose was thus ready and nearly perfect. To this was then made a thin scaffold or bridge of soft rubber, which, pressed together, could be introduced into the nose through the nostril. The bridge was covered with a thin layer of gutta-percha, and again introduced into the nose, and while the apparatus was being pressed from the inside with the little finger, when the gutta-percha was still soft, a perfectly true picture of the inner nose was thus obtained. After the hardening of the gutta-percha, the bridge was carefully removed, and a new one constructed after this, which was as much larger as the gutta-percha indicated.

To prevent the depression of the back of the nose, and the enlargement of the wings, the palate was perforated, a platina wire introduced into the nose, to support the bridge in the place where the back of the nose needed support most, and the lower end of the wire fastened to an artificial palate, as shown in Fig. 3.

During the whole period of the healing of the scar, special care was taken of the mutual relationship of the nasal walls and the artificial palate. If any place is still susceptible of being raised,



FIG. 4.

the surface of the bridge must be covered with gutta-percha; if any spot has shown itself the least sensitive, a thinning out of the bridge is there indicated. Thus, a well-fitting bridge is the result, which keeps the nose in good condition, and which the patient can always wear without inconvenience.



FIG. 5.

As to the central piece on the upper lip, which was destroyed to about one centimeter wide, the usual plastic operations of making

two parallel incisions across the lip was resorted to, removing the destroyed portion. To this was added a third cut under the nose parallel with the lip, which measured one centimeter on both sides of the cross cuts. Then the two halves of the lip were sewn together to the skin under the nose, and the result appears in Figs. 4 and 5.

II.

The patient, a peasant girl, sixteen years old, has lost through necrose, during a typhus, about nine years ago, the central part

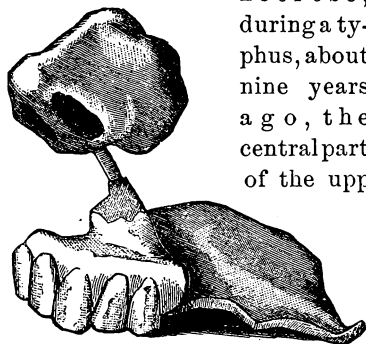


FIG. 2.

of the upper lip, the corresponding portions of the superior maxilla, and the left nasal wing. The septum cartilagineum and membranaceum was missing too, as well as all the six front teeth and the two

left bicuspids. After a very unsatisfactory plastic operation in hospital at the time, the nose gradually grew together, and a large scar disfigured the back of the nose, as shown in Fig. 1.

When the patient first came to me I at once prepared an artificial palate, to which I attached five front teeth, instead of the eight previously occupying that space. There was no room for more teeth because of the continual approach of the edges of the defective parts in the jaw, which was progressing all these



FIG. 1.



FIG. 3.

years. From the artificial palate a metal pin, through the already existing opening, behind the repaired upper lip, was leading to the nasal cavity. The scars in this were carefully detached, and the point of the nose, as well as the wings, was raised. The measurement of the inner nose was taken, and a bridge and separating wall prepared of rubber, the first being carried on the metal pin, as in Fig. 2. The breathing process obstructed after the first operation was now completely restored, and the shape of the nose also improved, as shown in Fig. 3.

DENTAL HELP FOR SCHOOLS.

Dr. A. P. Sinitzin, of St. Petersburg, gives some interesting statistics in the *Szubovrathebniy Vestnyk*. Thus, in Luzerne, Switzerland, an examination of a thousand school-girls, seven to fourteen years of age, revealed the following facts:

The number of teeth examined was 22,298, of which 14,213 were permanent and 8,085 temporary. Only 58 pupils (5.8 per cent.) had good teeth, 942 (94.2 per cent.) had carious teeth, 350 (35 per cent.) had dental irregularities and abnormal articulation, 80 (8 per cent.) alveolar abscesses, and 2 had defects of the hard palate. Thirty-five girls had 81 teeth filled. As it is generally known that children's diseases exercise a detrimental effect on the development of the teeth, the pupils have been asked about any preceding diseases, and it has been ascertained that 488 have been sick, 384 had no sickness, and 128 have not given any answer.

Dr. Padley, of London, examined the teeth of 2,000 school-boys, and found that 2,025 teeth were in need of filling, 966 needed the forceps. In children between six and twelve years of age this author found 758 permanent teeth decayed, which, however, could be saved by timely treatment. Among 1,985 scholars, only 527 had healthy teeth, *i. e.*, 26½ per cent.

In Russia, Dr. Limberg treated, during four years, 209 pupils of the Ivanoff girls' school, of St. Petersburg, between eight and twenty years of age. From this number, 184, *i. e.*, 88 per cent. had 940 decayed teeth, 128 pupils having 302 teeth useless for preservation. The observations of Dr. Limberg force the conclusion that women's teeth are oftener decayed than men's. The conditions of living and activity of pupils, which give rise to or strengthen and develop different affection of the teeth and interproximal spaces are nearly identical everywhere. These conditions are insufficient

and irregular nutrition, lack of necessary healthful exercise, impure air of living and school apartments, absence of care for the teeth or extremely deficient and belated care, irregular mastication, various general diseases of children, affecting also the growth and state of the oral cavity and the teeth, absence of dental examination and conservative help.

In view of the important relations existing between the teeth and the state of health, authorities on the subject have long urged the necessity of a scrupulous fulfilment of the demands in relation to the hygiene of the teeth beginning from an early age of childhood, and the necessity of introducing in schools permanent examination of the teeth and dental help. As a result, attempts are made in different state schools to enforce dental hygiene.

For instance, in Germany were instituted compulsory periodical examinations and repair of injured teeth of pupils of the cadet schools. In France there are free clinics opened in several cities for the reception of students. The London school council appointed a dental surgeon for the inspection of teeth in children of the schools of the Central London Circuit.

But much more remains to be done, and dentists all over the civilized world will do well to urge care for the teeth for the benefit of the school children as well as that of the State and Humanity at large.

TEETH IN AGES GONE BY.

It is certainly very interesting for dentists to learn the opinions which the ancients have entertained about the teeth. Some of the sayings on that subject clearly reflect the conviction of the people, which is then so far valuable if confirmed by subsequent scientific research, but it is nevertheless interesting if it only serves to indicate the progress which has been made from that particular epoch. I have gathered a few extracts from writers in different climes and times, which reflect the estimates of our predecessors on the subject.

MOSES AND THE TEETH.

Moses did not seem to think of one tooth more than another, his maxim being "Tooth for tooth."

But he seemed to place a high value on a tooth, as in his injunctions he declared :

If a master smite out his man-servant's tooth, or his maid-servant's tooth, he shall let him (or her) go free for his (or her) tooth's sake."

SOLOMON'S IDEAS OF TEETH.

In the celebrated song, commonly attributed to King Solomon, we read of his admiration for a beautiful set of teeth, as follows :

Thy teeth are like a flock of sheep that are even shorn, which come up from the washing.

That wise observer of human nature has left us also some sayings in regard to tooth troubles and the importance of sound teeth. He says :

As vinegar to a tooth, so is a lazy messenger to his sender.

And again :

Teeth are the millstones of life.

JEREMIAH'S LAMENTATION.

This great teacher seems to have observed well phenomena of hereditary influences, as shown in this passage :

The fathers have eaten sour grapes, and the children's teeth are set on edge.

HIPPOCRATES—FATHER OF MEDICINE.

While it is true that unmistakable traces exist in the literatures and discoveries in Greece, as well as among the Egyptians, Hebrews and Romans, of some valuable observations on the dental system, and the substitution of artificial teeth for the absent natural ones, it must be borne in mind that those notions and productions must of necessity have been largely of an empirical and rudimentary character. Indeed, it were a curious contradiction to our established ideas of a more or less systematic evolution of the different sciences to assume otherwise.

Thus, Hippocrates, who flourished about half a century before Aristotle, observed some incidents of dentition in children, and considered the dental system in general as a prognostic means.

In case of a carious tooth he recommended extraction, but whether they used forceps in those days does not appear.

Certain palliatives are recommended in cases of toothache; and in case of failure, the physician resorted to avulsion as the extreme measure. To restore symmetry destroyed by that operation, they applied to the venders of artificial teeth then made of ivory.

The dental colleges are not so thronged this year as last, as was to be expected. Well, perhaps the quality will make up for the quantity.

OUR MONTHLY GOSSIP.

By W. E. Blakeney, D.D.S.

"THE SECRET of being loved," says J. G. Holland, "is in being lovely, and the secret of being lovely is in being unselfish."

DENTISTRY is becoming a more and more popular field for women, and dentists of the masculine gender are looking down in the mouth.

A HISTORY of dentistry in Vermont, prepared by Dr. Thomas Mound, of Rutland, will be presented to the Columbia Dental Congress at Chicago, August 10th to 17th.

TO AVOID FAILURE, when the cavity extends under the gum, Dr. E. C. Blaisdale's practice is to make that portion of the filling of gutta-percha, the remainder of cement.

TAPE MOISTENED with chloroform is used by Dr. A. M. Holmes to finish gutta-percha fillings. It is said to cut down the filling quickly and smoothly, without danger of disturbing it.

THE FACT that about 400 applications for patents were made last year by women is an indication of how thoroughly the gentler sex is entering into the practical activities of modern life.

"RUBBER BANDS, tubes," etc., according to the *Ohio Dental Journal*, "that have lost their elasticity and easily snap, may be restored by steeping for half an hour in ammonia, 1 part, water 2 parts."

"INSTRUMENT POINTS," says Professor S. H. Guilford, "with just sufficient convexity to avoid flatness, and with distinctly rounded edges, will produce better results than any others in welding gold."

DR. OTTOLENGUI is "looking forward to the day when one of the occupations of the coming dentist will be in removing gold fillings to replace them with porcelain." For heaven's sake, let the doctor look!

"As a local anesthetic," says Dr. C. B. Atkinson, "for extracting teeth, congested pulps, and in opening abscesses, phenate of cocain has proved a valuable aid, entirely subduing pain without constitutional impression."

THE *Medical Journal* claims that the possibility of secondary hemorrhage is increased when carbolic acid has been used for the antiseptic solution in a wound. It acts on the clot, rendering it friable and liable to be washed away.

TINCTURE OF IODIN, it is said, greatly facilitates the operation of cleansing children's teeth, having a wonderful and almost instantaneous effect on the dark stains, combining with the latter, which are rendered so soft as to become easily removed.

DR. H. H. BOSWELL recommends the use of a mouth-mirror handle and frame with a piece of soft sponge in place of the glass, as being useful for moistening corundum wheels and holding the cheek away when grinding in the mouth. Try it.

"SALIVATION," says Dr. Patterson, "is merely a condition of enormous secretion of all the fluids of the body, due to impoverished blood; but these symptoms of salivation as described by medical men are not symptomatic of hydrargyrisms."

"In resetting a gold filling by oxiphosphate," says Dr. S. B. Palmer, "all parts of it should be made bright and clean. The oxiphosphate, mixed very thin, should be placed on the metal, and some in the cavity, which should also be made clean and dry."

THE *Dental Practitioner*, in an elaborate article entitled "Filling the Roots of Second Molars," assumes that the contents of the dentinal tubuli never become septic. "The tubuli are too small to permit the entrance of putrefactive organisms, or if not, the amount of putrescible matter is not sufficient to produce septic complications."

THE SECRETARY of a Western State Board of Health declares that danger and death lurk in the kiss and the communion cup, and warns the public against these causes of peril. Here, now, is a pretty kettle of fish for the good-looking young of both sexes! An enamel coating for the lips is surely in order, as the "kissing institution" has come to stay.

MRS. MARILLA ANDREWS, a recent graduate of Vassar and sister of Mr. Byrne Andrews, of the *National Tribune*, of Washington, has been appointed an editress of the *American Farmer*, one of the oldest home papers in the country. She is a lady of brilliant attainments, and will make her mark in the literary world. Women, evidently, are coming to the front.

"WHEN ABRASION has progressed till the cusps have been reduced to their basis," says Dr. J. E. Cravens, "the tracts of exposed dentine hang like sagging canvass from the camel that has been left standing as an elevated rim around the exposure, as if for protection; which constitutes a distinguishing and important feature of advanced abrasion, and should be noted."

A SINGLE drop of nitro-glycerin, 1 per cent solution in half a glass of cold water, is said to be a reliable remedy for the after pains of tooth extraction. Amyl nitrate (Powers & Weightman, Rosengarten & Sons) is also another reliable remedy. Both remedies are of "marvelous benefit," says E. H. Brown, M.D., "in neuralgias of all kinds, and both will oftentimes cure the bad headache following dental operations."

A VERY useful instrument (Herbot) for measuring the bands around roots for crowns is now in the market. It is said to be a neat contrivance, consisting of about eighteen different sizes of rings strung on a little chain, each ring being numbered and having also an accompanying gage. In fitting a cap to a tooth the rings are tried over the tooth till one is found of the correct size. By this means you get proper length of banding material and secure an exact fit.

"IF THE lecturer," says Dr. Haskell, in the *Ohio Dental Journal*, "could spend half the time in the lecture room, in practical demonstrations in the laboratory, aided by demonstrators of long experience, instead of young and inexperienced ones, the student would graduate far better qualified to practice than under the usual *regime*." Sure enough, doctor, and yet this culpable mistake will be tolerated just as long as parsimony is the governing principle of dental colleges. It is a burning disgrace.

"SOME of the Latest Phases in Implantation," by Dr. Younger, of San Francisco, were roughly handled at a late meeting of the Second District Dental Society of the State of New York. The concluding argument, in a heated discussion of this subject, was by Dr. J. P. Geran, of this city, who said: "We have, first, the jaw-bone with its alveolus covered by periosteum. In opposition to this, we insert a dense tooth deprived of its vital connective membrane. To put this foreign body (for such it must be), a dead tooth that has been extracted, it may be, for many years, into apposition to live tissue, and to get by so doing union such as is found between the bone and tooth, is, in my opinion, an impossibility. In other words, you cannot restore to its functional duties tissue that has been deprived of its vitality perhaps for years. Neither can you cause the periosteum covering the surface of the alveolus to attach itself to a *dead* replanted tooth. I say dead, because I am satisfied that when we extract it the connective tissue is torn asunder, and the manipulations which it has to undergo in our hands complete its devitalization."

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 83. *A miss, aged thirty years, enjoying good health, has fourteen upper and fourteen lower teeth, perfect in shape, and not a spot of decay. The upper third molar made its appearance, and, becoming painful from exposed nerve was devitalized and pulp removed. The tooth afterward became painful and was extracted. In a few days the left upper central incisor and first molar became loose, followed by a discharge from the free margin of gums. This being treated locally for a year without success was abandoned, but the application of roasted figs by the patient in time established firmness except in the central incisor, which remained elongated about an eighth of an inch. The teeth remained in this condition till six months ago, when examination revealed a loose upper left bicuspid. The pulp was dead, and after its removal the tooth was treated with peroxid of hydrogen and disinfectants for four weeks without success. After this the adjoining bicuspid became affected, and was treated in like manner. In a week's time there was a discharge from the two bicuspids, first molar and central incisor. An attempt to open the latter was abandoned on finding the tooth sensitive. In a week more the lower left cuspid became loose, and there was a fearful discharge from around the tooth. On opening pulp cavity this tooth was found dead, and all known remedies have been tried without success. What is the cause and best treatment?*

It is difficult to diagnose this case. I have never seen or heard of a similar one, but I should say it was caused by a local trouble. If the treatment followed is not successful, it seems as if the loss of teeth would be inevitable.

J. P. Root, Kansas City.

In my opinion it is a clear case of pyorrhea. I would extract each tooth as it becomes diseased, and supply vacancies with artificial ones; preferably on small gold plates, adding teeth as required. Finally replacing these plates with a permanent one. I should think it might be hereditary.

Charles B. Baker, Bridgeport, Conn.

A very singular case. It may be partially, if not altogether, of syphilitic origin. Give a good tonic, to build up system by giving the blood proper tone. Apply locally the best-known remedies for pyorrhea, and if this fails I would extract the teeth and replace with artificial ones.

R. L. Hays, San Antonio, Texas.

An unusual case, and one in which the past history and habits of the patient would require careful consideration, as well as whatever congenital

influences might bear upon it. With no other data at hand except that given in your communication, I should make a vigorous search for pus pockets and necrosed process. I should avoid peroxid and all other disinfectants of an irritating nature; I should also give tonic systemic treatment.

B. Bement, D.D.S., Lockport, N. Y.

The disease appears to be phagedenic pericementitis, caused by nerve irritation resulting from devitalization of the third molar. Treatment should be thorough cleansing of that portion, of all teeth, under the gum; the removal of all necrosed margins of alveoli; washing out of pockets with warm water, followed by a stimulating antiseptic; the washing and application to be repeated at each sitting. It would not be advisable to extend the treatment of pulp cavities. Thorough cleansing and dryness of root canals, followed by assured filling to the apex of root, will probably give satisfactory results.

John E. Engs, D.D.S., Oakland, Cal.

Question 84. *My little boy, three years of age, fell, forcing the two upper centrals inside the arch. I pressed them out as much as possible at the time, but they are still inside the lower teeth and growing very dark. What will be the result, and what can be done?*

The pulps are dead or dying. Treat as dead teeth. They will not affect the permanent teeth.

Charles B. Baker.

I should cut into pulp chamber, for the teeth are undoubtedly dead. Pull into place and band to adjoining teeth for a short time.

J. P. Root.

The accident may lead to malformation of some of the permanent incisors. It would seem well to leave the teeth as they are, and let nature take care of them.

John S. Engs.

Absorption of the alveolar process on the labial surface will be the probable result. Removal of the pulp and careful filling of the canals might retain the teeth in position, though the success of the operation is by no means assured, as the roots are, without doubt, partially absorbed.

B. Bement.

Question 85. *Patient, with left central incisor gone, desires a bridge, but the lateral is not strong enough to anchor the fixture. Is the right central sufficient attachment to hold bridge?*

I doubt if anchorage on one tooth will be strong enough.

J. P. Root.

As a rule, I would not like to trust a bridge with no other attachment than that mentioned. A light band around the lateral might be tolerated, which might be sufficient.

B. Bement.

The bridge will be firm if bands are fitted to both the central and lateral. I do not see how it could be called a bridge unless it had two resting points. The porcelain tooth should be soldered between these bands.

John S. Engs.

Question 86. *Is William's crystalloid gold No. 1 suitable for contour fillings?*

I do not think William's or any other soft gold good for contour filling altogether, as they are easy to scratch, dent and break. Soft gold is good to start with.

R. L. Hays.

I do not use it much. I prefer starting fillings with either White's new mat gold, or Watts' crystal—rarely ever using a retaining pit—filling the main body of the cavity with cohesive gold No. 4, in the form of pellets, and finishing with No. 30 in ribbons.

Charles B. Baker.

Question 87. *I opened and thoroughly cleansed an abscess, both surgically and medically, using all antiseptic precautions; but next day the face was fearfully swollen and very painful. What was the cause?*

The location of the abscess not stated, hence I should not like to venture an opinion.

B. Bement.

I should say your treatment was not as thorough as you imagined. Dead teeth, however, do not always give satisfactory reasons for their actions.

J. P. Root.

It would seem as if, after cleansing abscess cavity, you had allowed the opening to close again, permitting an accumulation of septic matter. Make the opening into the abscess larger and keep it so till inflammation subsides

John S. Engs.

Question 88. *What do you consider the best form of nerve broach to use, and what is the best mode of removing broken pieces from canals? Will they cause trouble if left?*

Take your choice. We prefer for most cases a Donaldson hooked broach, if a small one can be had. A specimen examined recently was provided with a hook and shank of sufficient proportions for cod. A small, tough broach, with good taper and short shank—the long ones are too springy and difficult to guide—is worth its weight in gold. It is bad practice to leave a broken broach in a root canal, though it has been done without causing trouble. If they become so wedged that it is impossible to hook them out, the canal should be enlarged down to the broken piece and a fine drill passed down at one side of it. Small points can be removed with chemicals, and often a broach attached to a magnet will remove them. With good broaches, that have not been often used, carelessness is the only excuse for this accident.

Question 89. *Why do teeth ache when the nerve is not exposed?*

Teeth do not always ache where the nerve is not exposed, but the irritation of nerve fibres by decay or the exposure of their ends at the neck of teeth will often produce severe pain.

[DR. M. L. DAMON:—Thanks for your kind praise of our Question Box. Your question is a good one, and will appear as soon as space will permit.]

EDITORIAL.

Dr. George Watt is dead. For nearly half his life he was an invalid, and yet he lived to see his seventy-third year. And though so long an invalid, he lived a very active life. Mentally he was always robust, and he led such a fine life morally and spiritually that his name was a perfume. He graduated first in medicine in 1848, was in the practice of dentistry forty years, and half of that time editor of a dental journal—first of the *Register* and then of the *Ohio Journal*. As professor in the Ohio Dental College was highly appreciated. His "Lectures on Chemistry" has been a standard work for many years. Though pressed with many cares and labors, and delicate in health, his patriotism, when the war broke out, broke all his ties to business and home, and sent him to the field as surgeon of the 154th regiment of Ohio Volunteers; and he was not relieved till an accident rendered him helpless. Is it not singular that with all these noble qualities he should be the mark of a stealthy murderer? Poison was worked into an apple for him to eat. Had it not been that his dear wife first found and ate it he, instead of she, would have been the victim. She was brought by it very near death's door, and it was a struggle of years to overcome its effects.

Dr. Watt was one of the most easy, fluent and accurate writers in the dental profession. His literary taste was formed on a high model. He never used a hard, unusual or long word when an easy, familiar, short word was available. The terseness of his editorials and other compositions was remarkable.

PROF. CHAPIN A. HARRIS.

It is sometimes pleasant to have a peep of the inner life of our great men. We have just received two or three private letters written by Prof. C. A. Harris, one of the original promoters of the Baltimore Dental Colleges, and author of our best medico-dental dictionaries. They were written to his brother, Thomas W. Harris, of Littleton, N. C. They reveal a warm heart, a genial nature, and

a sociality that we do not always find in our prominent public men.

In a letter written March 12th, 1839, among other things, he reveals the fact that he had been an inveterate user of tobacco; but, while on a visit to his brother, had been persuaded, with others, to give it up. This resulted in the formation there of an "Anti-Using Tobacco Society." It also shows that since returning to Baltimore he had been sorely tempted to backslide. What a terrible strong habit it must be? He says:

"How does the Anti-Using Tobacco Society come on? Who would have thought the crop would have been so great? Would you not like to join me in a social smoke? How vastly pleasant it would be to spend an evening as we were wont to do while I was at your house? Ah, I often think about it, and have longed to do it again, but cannot say I have shed many 'hogsheads of tears,' though I can assure you its deprivation has cost me many a sorrowful hour. At times it has caused me to wish I had never joined the society. To be plain, have you not some notion of withdrawing from the society? I must confess I have, but this I do wish you not to mention. I work for the society, however, and am trying to hold out. After I left your house I obtained the following names which I here beg leave to put on the records of the society."

As it must be a pleasure to the many descendants of these persons still living to see this list, we transcribe them.

"Dear Madam:

"The following persons have authorized me to put their names down as members of the N. C. Anti-Using Tobacco Society. Rev. Wm. Burge, Mrs. Wm. Burge, Miss Rebecca Ann Burge, Miss Mary Jane Burge, James P. Burge, Miss Avy Robert, Mr. Henry Harris, Mrs. Henry Harris, Miss Sarah Clanton, Mrs. Edward Alston, Miss Martha Crondup, Mrs. H. H. Williams, Miss Ann Brickle, Mrs. Mary R. Alston, Hon. Wm. Branch, Mrs. Wm. Branch, Miss Sarah Bennens."

It may be thought singular that so many ladies joined this society. But we understand that part of the pledge was that the ladies should not accept the company of gentlemen who used

tobacco, and that even married ladies should do their best to discourage its use by their husbands and children. Also, it must be remembered, that then many girls and women smoked, and rubbed finely ground tobacco on their teeth. I have seen a few such in the South in my day; but, of course, not of the respectable class. How revolting it does look in a woman? And should not the using of tobacco look quite as bad in a man?

Dr. Harris was a Methodist, and quite active in promoting the more zealous and spiritual interests of Christianity.

ABOUT OXIPHOSPHATE.

The fluid of the oxiphosphate sometimes crystallizes. This only shows it is a little too rich. Add a few drops of water and these crystals will soon disappear. Sometimes it is only necessary to heat the bottle in hot water. If water is added care must be used to add only enough to reduce it to a syrupy condition; a single drop more than this will spoil it. If the mix crumbles it generally shows that the fluid is too thin; it can be evaporated to a syrup if great care is used. Sometimes this crumbling is the fault of the powder; either it was not properly manufactured, or has been exposed to moisture.

A smooth, creamy cement will be more easily produced if the fluid and powder are put on the slab separately, and mixed by drawing the powder gradually into the fluid, stirring with a narrow spatula. If the slab is cool the cement will set the more slowly; if it is mixed on a quite warm slab, it is more apt to crumble; if moderately cool, it should set so quickly that the tooth must be protected by the rubber-dam, and the cavity thoroughly dried before the cement is mixed, and it must be used before it begins to set. Under these conditions, if it is mixed soft, it will adhere to the walls of the cavity and make a much more durable filling.

The cavity should be so nicely and completely filled, while the cement is still soft, that it will not require any smoothing, or rubbing, or cutting, or scraping, or even reducing with sandpaper. It

must be brought to a perfect form and finished while soft, so that it will harden with a gloss. It will then have a harder and more enduring surface. Pressing it while hardening makes it crumble, for you break the forming crystallization.

The rubber-dam should remain on till the cement becomes pretty hard, and then, before it gets wet, it should be protected with paraphine. This must be carried to the surface on a heated spatula, so that the paraphine will be so hot as to flow smoothly in a thin layer all over, immediately it touches the surface.

Is all this too much trouble? It should never be too much trouble to do our best in everything.

There are two ways of making large oxiphosphate fillings permanent, more permanent and better than large amalgam or gold filling. One is to almost fill the cavity with the oxiphosphate, and then, while it is soft, press into and overlay its surface with small pieces of soft alloy or of crystal gold. After a few minutes, when the cement is sufficiently hard, finish the filling by adding a little more metal and condense. If the cement is allowed to harden first a small portion has to be cut away, then the metal added, the first part being worked into pits or grooves made in the cement.

Another way is to cut and bend a thin piece of gold plate to fit the surface of the cavity. The pattern can be obtained by pressing on the surface a piece of lead or tin foil. A pin from an old tooth, or a strip of the gold bent V shape can be soldered on the under side. When the cavity is quite filled with cement, and still soft, press the plate onto it so that the pin or V attachment will sink into the cement, and the plate be on a level with the surface of the tooth.

The advantage of a filling of oxiphosphate covered in either of these ways is that by the cement sticking to the walls it makes a perfect filling, and thus protected the cement will not deteriorate.

The following way of making an artificial crown is not new, but some may be benefited by a description.

Make a gold band to fit over the root and pass well down under the gum, and up to nearly articulate with the apposing tooth. Solder a cap on this so that it shall represent the grinding

surface of the tooth. Partly fill this cup and press it thoroughly to place. A bite on it with a piece of "tea lead" foil on top will show when it properly articulates. The tea lead is placed on the grinding surface, so that when it is removed the articulation will not be quite close. Of course such a crown will not do for a front tooth.

PROFESSIONAL MYSTERIES.

One of our printers once said to us, "Doctor, you should introduce more Latin and Greek and Hebrew words and phrases into your magazine. They would make it look more professional."

"Why, my dear sir," we replied, "what do you know about these dead languages?"

"I don't know anything about them," said he, "but I can set up the type like a scholar, and it makes an article look much more learned to have a few sprinkled through it, though one in five hundred may not be able to read them. In professional journals there is nothing like looking scholarly and high-toned, and even a little mystical."

But as far as we have been able, we have made the *ITEMS* English, and the English of it as terse and easily read and understood as possible. We are sorry to say we are obliged to make some exceptions. Occasionally we quite offend some of our extremely scholarly contributors, especially those recently from college, who want to appear learned, by essaying to interpret some of their quotations from the dead languages. I surmise some of these writers could hardly read a full sentence in either of the languages from which they so flippantly quote.

When a physician we were called to see a child whose father had once told us we would be thought more of if we threw around our practice more professional mystery and style, "Any old woman," said he, "can understand what you prescribe, and all you say and do."

We thought we would, in this instance, be a little more "professional."

The child had a sore mouth, which any old woman would have

recognized as consequent on teething, and would have successfully treated with a little saffron and a rubber ring.

"I am sorry to inform you," we said, as we mysteriously examined the child's mouth and tongue, and took a record of the pulse, and placed a thermometer bulb in the mouth and under the arm pit, "that your dear child is afflicted with stomatitis catarrhalis of the oral mucous membrane and the integumental tissue. I am glad to be able to say, however, that there is not yet an actual loss of tissue, and we will try to prevent its passing into congestion, tumefaction and ulceration."

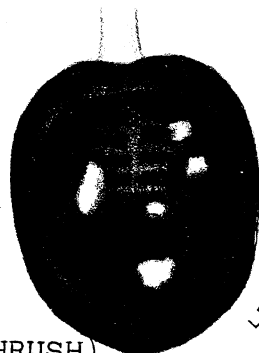
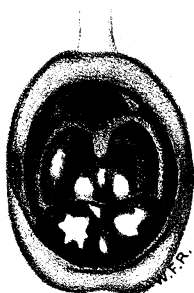
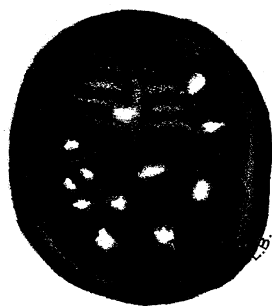
"Why, doctor," interrupted the affrighted father, "is it so bad as that? Must my child die? What can be the cause of such a terrible disease?"

"Its etiology and diagnosis, with the symptomalogical indications point to infantia dentinum, superinducing aphthæ erythema and proliferation of the epithelium and muciparous follicles, causing stoppage of their ducts, and may result in cysts, though its cause may be also mechanical, chemical, thermal and parasitic. One of our most recent authorities says, 'the pressure thus exerted causes pain of varying degree by reason of the irritation of the integumental tissue, and of the nervous and vascular supply of the tooth pulp. The inflammation thus produced is invariable to a degree.' This erethismus will be aggravated if you allow your child to carry such things to the mouth as buttons, pins, toys, etc. We must be careful, too, of hygienic conditions, and food must not be allowed to ferment on, between and around the oral toodles. We must also see that this marked stomatitis catarrhalis does not develop into tonsillitis and pharyngitis. The causative relationship and exact irritating influence of the bacteria have in producing stomatitis catarrhalis I cannot yet determine, but it may be an important etiological factor, and—"

"But, doctor, speak plain English. Do you say my child has cataract of the stomach?"

"It has hardly yet got to the stomach; but it is spreading, and if it becomes confluent, and irratical erythema and stomatitis symptomatica there will be danger. I think if you will get this

PLATE H



FIGS. XXIX, XXX, XXXI. STOMATITIS MYCOSA. (THRUSH)

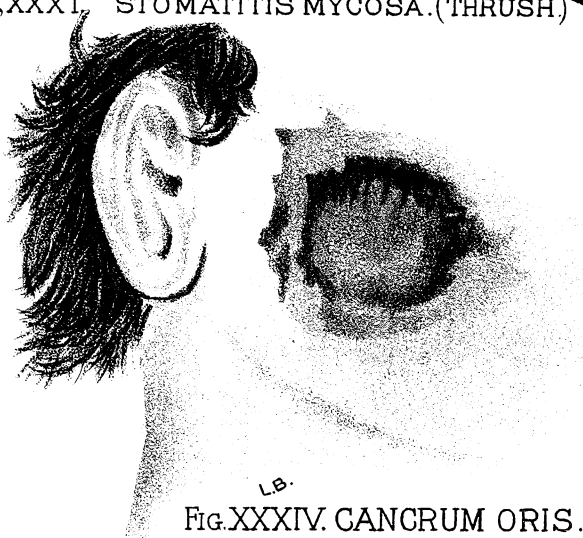
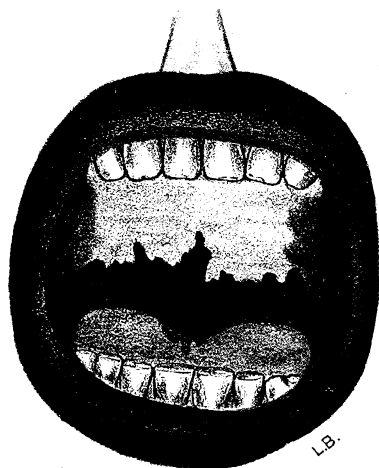


FIG. XXXIV. CANCRUM ORIS.



FIGS. XXXII, XXXIII. STOMATITIS GANGRENOUSA.

prescription of your apothecary, and use it as indicated, your child will improve :

R.—Tinctura stigmas crocus sativus.

Saccharum purificatum.....āā f3j.

Creta præparata..... 3ij.

Aqua destillata..... f3viiij.

S. Coch. as a lotion to hold in the mouth for a time every three hours.

R.—Chloride sodium..... 3j.

Sodii carbonas exsiccatus..... 3v.

Aqua comunis..... 3vj.

S. Misce as a mouth wash between lotion.

These rare, professional and mysterious prescriptions acted like a charm, and the child got well quickly in spite of us, for it was our professional duty to bring the child through with slow, cautious steps. It is dangerous to cure a patient speedily—dangerous to the physician's interest at least. Do you not believe that gentleman paid me my fee of twenty dollars much more cheerfully than he would have paid a dollar to a good old mother in the neighborhood for her saffron? Ah, there is nothing like professional mystery!

GOLD FOR DENTAL USES.

The preparations of gold used occupies a very small share of the dentist's attention, except as to the working qualities under his hand. Perhaps a few facts on these preliminary processes will be of interest.

Many will be surprised to learn that gold was used for dental purposes before the commencement of the Christian era. Dr. Mellersh writes that "artificial teeth of Egyptian and Roman times have been discovered in which natural teeth were fixed to an ivory base by means of gold; also Egyptian mummies have been brought to light, some of the teeth of which were filled with gold." In what state this gold was used of course cannot be learned, but it must have been hammered in some way thin enough to allow of its being packed into the cavity. The reason that gold is so universally selected as the best medium for preserving teeth by filling

their cavities rests on the physical fact of its being unattacked by any acid or combination present in the mouth.

The process of producing the different characteristics required by the profession is very interesting, as it is desired in all the conditions from soft to very cohesive, and the problem is to produce those several characteristics without alloying. Unfortunately the processes of the different manufacturers are held secret, and the dentist can judge of its desirability by the results when placed in his expert hands for use.

Soft gold is the most difficult to produce as the natural cohesiveness inherent to the metal must be overcome. This is sometimes overcome by the absorption of a small amount of cadmium or other metal. Semi-cohesiveness would be about what commercially pure gold would produce, and extra cohesive could be obtained by a very careful and thorough refining, but none of these methods would give the operator uniformly the result. There is a process, however, by which these different physical conditions can be produced with regularity. This was the result of a series of experiments by Dr. David Morgan, assisted by Dr. Louis Jack, and afterward tested by the late Prof. James Booth (for many years the assayer of the United States Mint), who, skeptical at first, held that the physical conditions of gold were fixed and could not be changed without alloying, but who, after frequent tests, admitted that the characteristics were entirely different in the three grades submitted; namely, soft, semi-cohesive, and extra cohesive, and that all proved by assay absolutely pure.

Gold is presented to the profession in many forms. *In sheets* of various thickness, the number meaning the number of grains in each sheet, as for instance No. 4, which contains four grains in each sheet, and so on. Concerning *crystallized* gold foil an interesting fact may be cited. It is said that this was first brought to light when the safes of one of the dental depots were opened after the Chicago fire. The paper was all found burned and the gold in crystallized form. It is thought that it makes the gold soft and velvety in quality, but it is not in very extended use.

Gold in the form of *cylinders* is largely used as a great saver

of time, as the operator has them at his hand in any thickness and length desired, thereby saving the labor of folding and cutting. Cylinders were made possible by the discovery of crystallized gold, as flat gold when rolled would be too compact; but with the crystallized gold it can be rolled loosely and retained in that form if carefully cut by very sharp knives. All the various qualities as to cohesiveness are produced in cylinders.

Sponge gold is gold precipitated from a solution and placed on the market without going through the subsequent processes of melting, rolling, beating, and annealing. It is generally believed that a solid compact wearing mass, free from pores, cannot be so readily obtained from gold in this spongy form as gold which goes through the above processes in which the molecules are elongated by rolling and condensed by the process of beating.

There are many other forms intended to save the operator's time, but the general impression which seems to be well founded, as evinced by the demand of the profession, is that the gold foil in sheets and in cylinders presents all the forms necessary to good work. The accuracy, delicacy and uniformity of the results of some manufacturers make their products the most desirable. The rivalry to improve even the best is highly commendable, and we refer with pride to our advertising columns as new proof in this direction.

A DYSPEPTIC JOURNAL.

Is it possible for a dental magazine to have the dyspepsia? *The Western Dental Journal* for February is certainly out of order in its stomach. It flings its bile right and left, and makes up horrid faces. In the midst of its sour eructations it throws out not less than seven spasmodic spurts at its contemporaries of the current month. We pity friend Patterson if he is sick at his stomach, but he might make some of its effects more private. We are sorry he is growing old, but he might grow old gracefully. It is a pity he should inject into his journal his own nausea, and especially the

sharp angles of his old age. Poverty, too, is pitiable, but should be borne with meekness.

Brother Patterson, suppose you are *not* able to compete financially with the ITEMS OF INTEREST, is that a reason you should refer with contempt to the most costly series of illustrations ever undertaken by a dental journal? Suppose you do *not* like our editorials, is that a reason you should call them by hard, ungentlemanly, vulgar names? Suppose you *are* mortified at its leaving your journal so far behind, and by its leading all other dental journals in its circulation, is *that* a reason you should stigmatise it as the "The Items of Insanity," thus impugning the judgment of nearly the whole profession who show by their patronage that they esteem it the best journal for the busy dentist?

But the ITEMS OF INTEREST is not the only one that sours his stomach in his envy. Another dental journal "contains matter neither creditable to enterprise nor to the profession." He spits venom at no less than four current articles. In his august opinion "they have no place in the literature of the profession." He stigmatises one he does not like as of those "which vent personal spleen, and show beggarly attempts at humor." Perhaps he should be a good judge of that kind of composition. He spends a half page in denouncing another article finely illustrated with the portraits of leading dentists,—not because the portraits are not good and of good dentists—but because to give these portraits "is clearly not in keeping with the best interpretation of ethical rules;" and dreadful thought!—"it may fall into the hands of many outside of the profession;" and then "it would be advertising," and be "like the methods developed by empirics." "The dental profession should be aware of it."

But the climax of absurdity is our *Nomenclature of the Teeth* in our February issue. That does make him sick. "Poor Billy Patterson!"

Will it do for this kind, old gentleman to stand guard for the profession and not be paid? Pass round the hat.

If we live long enough to approach old age, we shall want to be an Episcopalian long enough to use their admirable prayer:

"From sharp elbows, crotchety gait and carping, Good Lord, deliver us.

"From dyspepsia and gout and querulousness, Good Lord, deliver us.

"From nervous irritability and tendency to sour, Good Lord, deliver us."

It is all well enough to say you will not do poor work by being overtender, and that you are not going to "slop over" with excessive sympathy; but let it be remembered that a mere dentist is a mere machine behind instruments; merely a mechanical fixity in a repulsive office; an unfeeling, unsympathizing, inhuman necessity, to be resorted to only in dire extremes, just as we take calomel and jalap.

Poor, timid, suffering patients prefer for their dentist a man—a man of like passions with themselves—a man who is humane, and therefore knows the nervous depression of pain and suffering, and can sympathize with the anxiety and timidity it produces; so full of human fellowship as to bring him aside his suffering patient, and make allowance for even shrinking fearfulness and foolish timidity and ignorant forebodings. Ah, yes, give me for my dentist rather a womanish man than a manly iceberg. Of course, none of us would choose one of sickening sentimentality and effeminate weakness and repulsive intimacy. We all like reserved dignity and manly firmness and thorough workmanship; but why not mingle all these with kindness and compassion and carefulness?

That dentist's success is assured who will, as much as possible, cover his torturing instruments, hide his professional character, and meet his patients as his associates in the common frailties and sufferings of life.

There are eighteen dental journals published in the United States; one in Canada; three in England; six in France; six in Germany; two in Austria; one in Switzerland; five in Italy; one in Denmark; one in Russia; one in Spain; one in Norway; one in Cuba; one in Japan; forty-eight in all. The *ITEMS OF INTEREST* has the largest circulation.

NOTES.

Busy men are often injudicious in the expenditure of strength, and then seek a resupply in recreation. But their recreation is frequently as exhausting as their work. They rush through with the same impetuosity at recreation as at work, coming back to their vocation as ill prepared for its strain and worriment as when they left it.

* * *

"Study to be approved" is a Scripture motto that should be conspicuous in every workshop. But how we have to work for it till wisdom and skill oozes out of our very finger tips! But when your best judgment and your conscience and your patients do smile on your endeavors, how pleasant it is. And such well-doing brings its reward.

* * *

Campho-phenique is spoken of very highly by Prof. O. N. Bedell, of St. Louis. He says: I have used it with much benefit in after-pain of teeth extraction, especially of ulcerated teeth; also in pain and tenderness of teeth from poisoning, salivation, necrosis of alveola, and in many cases of inflammation, pulpitis, pericementitis, alveolar abscess, stomatitis, etc. No student or practitioner of dentistry can well say his list of remedies is complete without campho-phenique being represented.

* * *

We should be more happy and contented, more noble and useful, more appreciated and successful, if we better prized and used our blessings. Our selfishness blinds us to the sweets of moderation, and our profligacy makes us moral and physical dyspeptics. The normal tension of our passions becomes relaxed, and the clear, free, forceful workings of the mind become warped and blunted, till, without feeling the disgrace as we should, or restraining ourselves as we might, we become wrecks left on the roadside of life.

* * *

It is not often we call attention to references submitted by manufacturers advertising in our journal, but a case has arisen in this number in which we can conscientiously forego our usual rule and call the attention of the profession to the references given by permission to Messrs. Morgan, Hastings & Co., as they are from the most eminent professors and operators—men who must know of what they write, as their names are seldom, if ever, seen under such circumstances.

J. S. Frantz, President.

When our colleges become more a school than a lecture platform, and the school is more of a training and mechanical discipline than the study of books and theories, we shall have better dentists. Lectures are required, theories are good, books are excellent, but practical demonstration is everything.

* * *

According to Professor R. Austin, a gold alloy containing 20 per cent aluminum possesses the remarkable property of melting at a lower temperature than gold alone. This is contrary to the general rule that an alloy melts at a temperature above the melting point of the sum of its constituents. "It is remarkable," says the *Zahntechnische Reform*, "that the alloy of 90 per cent gold and 10 per cent aluminum follows this rule. These aluminum alloys of gold possess beautiful colors; that containing 20 per cent aluminum is ruby red; those with larger admixtures of aluminum are purple."

* * *

The terrible evil of the saloon is illustrated in the statement of the owner of a costly and attractive building formerly used as a saloon in New York city, but who has gone out of the dreadful business. The statement comes to us with apparently accredited authority: "I have sold liquor," said Mr. ———, "for eleven years—long enough for me to see the beginning and end of its effects. I have seen a man take his first glass of liquor in my place, and afterward fill the grave of a suicide. I have seen man after man, wealthy and educated, come into my saloon who cannot now buy his dinner. I can recall twenty customers worth from \$100,000 to \$500,000, who are now without money, place, or friends, all from the effects of liquor."

* * *

Dr. C. N. Pierce says blotting-pad which has been saturated with a 40 per cent. solution of nitrate of silver is better than the pure crystals for sensitive dentine. "This preparation," he says in the *International*, "seems to work very happily, and is of abundant strength for all purposes required in the mouth, whether for cauterizing the soft tissues or acting on the hard. It is well known that nitrate of silver is very soluble, dissolving in its own weight of water. This strong solution I tried first on some short fibre of cotton, but found, when dried, that the cotton was entirely destroyed. This strength—40 per cent.—is about as strong as it can be used without some destruction of the fabric. The pad, thus prepared, can be cut into small pieces, and be always ready for use, if it be kept dry."

FOR OUR PATIENTS.

The late Barry F. Rice, recently a young traveler for Goldsmith & Company, whose sad death at Payette, Ida., recently is still far from being a memory only, was noted for the zeal and energy with which he attended to the interests of his employers. These characteristics he, perhaps unconsciously, embodied in the following lines when buoyant with youthful hopes and aspirations, and now that he is dead they can appropriately be called his epitaph, so expressive are they of his nature, and they may well be our motto :

MY BEST.

I may perform no deed of great renown,
No glorious act to millions manifest,
Yet in my little labors up and down
I do my very best !

I may not paint a perfect masterpiece,
Nor carve a statue by the world confessed
A miracle of art, yet will not cease
To do my very best !

My name is not upon the rolls of fame ;
'Tis on the page of drummer's life impressed ;
But I'll keep marching, marching just the same,
And do my very best !

Sometimes I sing a very simple song,
And sing it to the merchants, East and West,
Although in silentness it rolls along,
I do my very best !

Sometimes I write a very little rhyme
The blues within me cannot quite repress,
Though no one reads, the letters are so fine,
I do my very best !

And if I see some fellow traveler rise
Far, far above me, still with quiet breast
I keep on climbing, climbing towards the skies,
And do my very best !

It may not be the beautiful or grand,
But I must try to be so careful, lest
I fail to do what's put into my hand ;
My very, very best !

Better and better my work must be,
The last a little stronger than the rest ;
Good Master, help my eyes, that they may see
To do my very best !

TEETH IN DETECTIVE WORK.

The *New York Advertiser* says Mrs. Caroline Hoffman has scored another victim—convicted another barber of pulling teeth—and the crusade of the dental society goes bravely on.

The barbers of late years have been steadily encroaching on the domain of the dentist in New York, in the matter of pulling teeth. The dentists are protected by law, which gives them a monopoly of the business; but that law has been a dead letter on the books. The barbers have grown so bold that many of them display signs advertising their illegal practice of extracting teeth, usually "without pain," at cost prices. The charge among dentists ranges from \$2 down to 50 cents—the latter price prevailing—while the barber takes what he can get.

The attention of the dentists' society was drawn to this barbarous practice, so to speak, and Dr. Carr, President of the Board of Examiners, determined to break it up. He was legally advised as to what proof would be required for conviction.

Just here Mrs. Hoffman comes into the story. She lives at 330 East Seventy-sixth street. One husband died, the other is at large. Mrs. Hoffman's regular profession is that of midwife, but she goes out washing and scrubbing. She had very poor teeth, and needed a new set. She went to see Dr. Carr at the very time he was looking for such a woman.

Dr. Carr proposed that she should make profitable use of her misfortune to help him convict barbers who were pulling teeth without license. He agreed to pay her \$1 for each tooth pulled, \$1 when the barber was arrested, and \$1 for each appearance in court during the barber's trial. Mrs. Hoffman agreed to these terms.

"How many teeth have you," asked Dr. Carr, "available for detective work?"

"Eight or nine," said Mrs. Hoffman.

Dr. Carr, who knows some political history, had listed his suspects in "blocks of five."

"I'll give you five names, said he, "for the first batch. One tooth is enough for each barber."

This was the list :

First tooth, W. Stanley, No. 45 Grand street.

Second tooth, A. Groucher, No. 120 Ridge street.

Third tooth, Michael Cohn, No. 179 Stanton street.

Fourth tooth, S. Linder, No. 40 Essex street.

Fifth tooth, Meyer Fuchs, No. 119 Clinton street.

Mrs. Hoffman has been eminently successful. One after another of these men have been convicted on her evidence, the last one being Michael Cohn, fined \$50 by Judge Fitzgerald. The barbers have taken down their tooth-pulling signs and have universally abandoned that business. Dr. Carr is besieged now with applications by women who want to play detective and get rid of bad teeth, as Mrs. Hoffman did, but the demand is very limited and is growing less, as the illegal practice is nearly broken up. Mrs. Hoffman, as she was the pioneer tooth detective, will likely be the last to achieve prominence and success in her unique profession.

A surprising fact is that several women who have applied for detective work propose to sacrifice good teeth at the prices quoted. They were usually very poor and in special distress. They were keenly disappointed at being told that there was no immediate prospect of employment for them.

"Besides," one little woman was told; "bad teeth are wanted—not perfectly good ones, like yours. These teeth are worth a great deal more to you than \$3 or \$4. It would be wrong of you to have them extracted."

"I know," was the quiet reply, "but the children must have something to eat."

But to Mrs. Hoffman belongs the credit of creating a market for decayed teeth. A curious feature of the war on barbers in New York is that in New Jersey, just across the river, anybody—barbers, blacksmiths and dentists—can pull teeth.

A SKILFUL PHYSICIAN.—Dr. Pulser—"Yes, sir; I have literally snatched men from the grave!"

Stokes—"Is that so; when?"

Dr. Pulser—"When I was a medical student, sir!" *Li'e.*

THE BARBEROUS DENTIST.—Barber (testing the razor)—"Do I hurt you, sir?"

Baird—"No; not so badly as the last man who had me in his chair."

Barber (highly gratified)—"Who was that?"

Baird—"The dentist."

Puck.

NOTICES.

The Alabama Dental Association meets at Birmingham, April 11th-14th.

* * *

The Southern Minnesota Dental Association will meet at Mankato April 18th, 19th, and 20th. Any visiting brother will be made cordially welcome. *C. H. Stearns, Chairman Ex. Com.*

* * *

The annual graduating exercises of the Kansas City Dental College were held Friday, March 3rd, 1893. The following graduates received the degree of D.D.S.: Andrew William Davis, Kansas; Richard Jefferson Winn, Missouri; John H. Holke, M.D., Missouri; W. Harry DeWitt Dwight, Iowa.

J. D. Patterson, Secretary.

* * *

"Here we are again," so says Dr. B. H. Catching of Atlanta, Ga., as he sends us a sample copy of his "Compendium of Practical Dentistry for 1892." This is his third venture; or rather, this establishes his success in gathering the more important thoughts of current dental literature. No dentist can fail to be benefited \$2.50 worth by its thorough study.

* * *

The seventh annual commencement of the Meharry Dental Department, of Central Tennessee College, Nashville, Tennessee, was held in connection with that of the Medical Department, February 7th, at the Gospel Tabernacle, in the presence of an audience of over three thousand people. S. R. Thompson, of Tennessee, and A. M. Wilkins, of Georgia, were the graduates in dentistry, the valedictory address being delivered by the latter. Seven students have been enrolled during this session.

This is the only institution in the Southern States for the education of colored dentists. The graduates of former years from this school have been kindly received by the white dentists of the South, and have been well patronized by their own people.

* * *

The St. Louis Dental Association has lost by death a valuable member in Dr. Edgar Park. He was only fifty-two years of age at his death, and yet he had risen to eminence as a worker and promoter of dental interests generally. Like most successful men, he commenced his own career with hardly more than the clothes on his back. By hard work he struggled through the Rush Medical College, and then through a dental college, to become immediately

associated with one of the most remarkable and skilful dentists in the world, Dr. W. W. Allport, of Chicago. His after association with Dr. C. W. Spalding, and still later with Dr. H. I. McKellops, was equally an honor and benefit to him. In 1870 he opened an office of his own in St. Louis, and soon secured a lucrative practice, and was highly esteemed socially and professionally.

* * *

The commencement of the Alabama College of Dental Surgery, Bridgeport, Alabama, was held February 24th, 1893. Degrees of D.D.S. were conferred by Chas. A. Holmes, President of the Board of Trustees, on the following candidates, who had completed the third term: A. Irene Yokum, Sanford W. Allen, Henry Clay Stephens. Valedictorian, A. Irene Yokum. Gold medals were awarded as follows: "Founders' Medal," best general average, A. I. Yokum; best gold filling, S. W. Allen; best examinations, anatomy and physiology, A. I. Yokum. Addresses were made by W. K. Spiller, Dean; Rev. W. A. Cook, T. M. Allen, D.D.S., and the President of the Board, Chas. A. Holmes. Matriculants: S. W. Allen, W. H. H. Brown, H. M. Chester, T. E. Garrett, W. L. Helms, F. C. Holmes, J. P. Lovett, H. Renker, H. C. Stephens, B. L. Stinson, W. P. Stinson, E. R. Van Diver, M. L. Wade, W. A. Wood, and A. Irene Yokum.

* * *

EVAN'S ARTIFICIAL CROWN- AND BRIDGE-WORK. THIRD EDITION.
S. S. WHITE, DENTAL COMPANY.

This work is well worth the perusal of every dentist; for if he is not doing crown-and bridge-work, it will make him intelligent in this important branch of his profession. It will also show him how far below the standard of an all-round dentist he is, and perhaps stimulate him to advance into the first ranks. We were mortified recently by the reflection made on our mind by a note received from Dr. E. Willis Price, of Seattle, Washington. He said: "I want a first-class assistant or partner, for I am worn out with overwork. But he must be such a man as you would recommend—a Christian, a gentleman and a skilful workman, well up in bridge-and crown-work." "A golden opportunity," we thought, for one who can fill the bill. But who could we recommend? There are many second-class workmen floating all around. Why is it, so many young men are satisfied with second-class attainments and positions,—so few, able to come to the front? They are continually crying out, "They crowd me so," and yet do not put forth energy to come where there is no crowding—except the crowding

that carries them still further on to desirable vantage ground. Come boys, come up where you can take first-class positions and maintain them. Where there is a will there is a way.

You may have a prejudice against this kind of work; and so much of it is poor, dirty and short-lived, we do not blame you for your prejudice. We wonder there is not more poor work done when we see how every tryo ventures in its execution without proper instruction. But there is good work of this kind done as well as poor work, and you may do the good work, and very much enhance your reputation and income by doing it, if you will look in the right direction for your information and skill.

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Who wants to make the dry, difficult, perplexing study of chemistry a mere pleasurable pastime? Let them send \$2.50 to The Wilmington Dental Company for the "Elements of Chemistry and Dental Materia Medica," by Prof. J. S. Cassidy. It is not exhaustive as a chemistry, or as a materia medica, but it is all-sufficient for a dental student or practitioner, and it can be studied and mastered without a teacher. No wonder our Association of Dental Faculties has adopted it. Even for one who intends to follow the study of chemistry farther this book is a charming introduction.

We see Prof. Cassidy has adopted the new spelling recommended by our Governmental Bureau of Education. The Professor says in a note :

By kindly referring to the Index, the reader will observe a slight departure from the usual orthography of some words. Thus will be found chlorin, iodin, glycerin, cocain, oxid, sulfur, etc. This innovation is in accord with the recent recommendation of the chemical section of the American Association for the Advancement of Science, and will probably be generally adopted in the near future.

This reform spelling is already adopted by nearly all our publishers, editors and educators, and shows how easy it would be for our Government to go further and give us pure phonetics. There would be little trouble in its becoming generally adopted. But the changes brought about by even this action is a strong entering wedge. Congress itself has had a committee working on this phonetic reform for the last three years. It has now an excellent report ready, which has been crowded aside by other interests. But the committee is continued and will be heard from.

Some writers seem to think if what they are writing is designed for a book they must put on a learned, technical, foreign air. Unless they can make it necessary for the common reader to have a diction-

ary and a lexicon by him while reading their stilted, "professional" style they are not satisfied. In contrast with all this nonsense, we will quote Dr. Cassidy's Chapter on Physics. This will be seen, as is his whole work, the embodiment of simplicity and terseness:

Matter and Force are involved in the consideration of all natural phenomena.

MATTER, SUBSTANCE, of which the physical universe is composed.

FORCE, modes of motion by which are manifested heat, light, magnetism, and electricity; also motor, or mechanical motion. All of these are inter-convertible.

SPECIFIC GRAVITY. Special kinds of matter, as water, chloroform, gold, etc., differ from each other in weight; or equal bulks of them are not affected equally by the attraction of gravitation. They differ therefore in specific gravity, or in the force with which they fall to the earth.

The specific gravity of any substance is its weight compared with the weight of an equal bulk of the standard substance reckoned as unity.

For all solids and liquids, distilled water at a temperature of 4°C. (39°F.), is the standard of unity. As change, in this respect either increases or decreases the volume, a definite temperature is necessary. The specific gravity of any liquid is ascertained by dividing its weight, at the standard temperature, by the weight of an equal bulk of water. The quotient will be greater or less than unity, according as the weight of the liquid in question, is greater or less than that of the standard.

The specific gravity of a solid is obtained by the same rule, *viz.*, divide the weight of the solid by the weight of the same bulk of the standard (water). If the solid be heavier than water, it is first weighed in air, then in water; it thus weighs less in water than in air, and the *loss* in weight expresses the weight of its own *bulk* of the liquid. Its weight in air is divided by the amount it loses by immersion in water; the quotient will be the specific gravity of the solid.

When the solid body is soluble in water, then some not-solvent liquid, the specific gravity of which is known, is taken as a substitute.

In determining the specific gravity of a solid *lighter* than water, various methods are employed. A piece of metal, for instance, may be attached to overcome the buoyancy of the light body, and mathematical results thus obtained.

A sufficiently exact key to the general doctrine of the equilibrium of floating bodies is afforded by the theorem of Archimedes.

A solid of less specific gravity than the liquid in which it is placed will float. It displaces, at the same time, a quantity of liquid exactly equal to its own weight. Thus, a solid possessing one-half the specific gravity of water, if placed in that liquid, will sink one-half its bulk, the weight of the water displaced, being equal to the weight in air of the floating body.

It is on this principle that instruments known as hydrometers, urinometers, etc., are constructed, by which a graduated stem, made of glass or metal, floats in the liquid to be tested. If the liquid be heavier than unity, the stem will be raised accordingly, and *vice versa*, with liquids lighter than water. The specific gravity of the liquid will be indicated by the coincidence of its surface with the figures on the graduated scale.

The specific weights of gases are obtained by dividing their weight by an equal volume of air. In many cases hydrogen is taken as the standard of unity for gases. The term *density*, when applied to a gas, implies that hydrogen is reckoned as unity, and when the term specific gravity is employed with reference to the same, or some other gas, it is understood that *air* is the standard of unity.

PROPERTIES OF GASES.

Gases or vapors, whether simple or compound, are obviously affected by the attraction of gravitation, in common with other forms of matter.

The atmosphere is the familiar prototype of gases in general, and serves to exhibit certain phenomena pertaining to all of them; one of which is the property of *elasticity*.

Air contained in a cylinder, in which works an air-tight piston suffers condensation, if the piston be pressed down; whereas, if the pressure be lessened by raising the piston, the air will expand and completely fill the enlarged space in the cylinder.

The volume of a given weight of gas depends on the pressure; the relation being expressed by the law of Mariotte, "The volume of a gas is inversely as the pressure; the density and elastic force are directly as the pressure and inversely as the volume." Thus, one hundred cubic inches of gas at the ordinary pressure, will expand to two hundred cubic inches, if the pressure be reduced one-half, and shrink to a volume of fifty cubic inches if the pressure be doubled.

The atmosphere is the ocean of gaseous matter surrounding

the earth and held to the latter by the attraction of gravitation. Its weight, or density, is therefore greater at the sea level than at high elevations; the density decreasing uniformly as we ascend.

Instruments to indicate changes in the weight, or pressure of the atmosphere at different elevations, or temporary changes in the pressure at a given elevation, are called barometers.

The mercurial barometer is constructed by filling completely a glass tube about thirty-five inches long with clean, dry mercury, and the open end of the tube inverted in a reservoir of mercury. It will then be seen that the mercurial column will descend in the tube—leaving an empty space above—till it reaches a position about thirty inches above the surface of the mercury in the reservoir, at which point it remains balanced by the pressure of the atmosphere. Now, if such a column of mercury, having an area of one inch, be weighed, it will be found to weigh between fourteen and fifteen pounds, proving that the pressure of the atmosphere is nearly fifteen pounds on every inch of the earth's surface.

The diffusive power of gasses depends on their relative densities; the rule being that "the diffusive power of a gas is inversely as the square root of its density." If a vessel be divided in two equal compartments by a thin, dry partition of plaster of Paris, and the two compartments filled with different gasses, incapable of acting chemically on each other at ordinary temperatures, it will be found that diffusion into each other will take place according to the above rule.

If one compartment be filled with H, and the other with O, four cubic inches of H will pass through the porous plaster of Paris diaphragm, to the oxygen side, while one cubic inch of O will pass to the H side. The densities of these two gases are one to sixteen; their relative rates of diffusion are inversely as the square roots of these numbers, or four to one.

The inherent diffusive power of gases, whereby the atmosphere absorbs them, prevents the accumulation of poisonous vapors in confined localities, their wide dissemination permitting the atmospheric ozone to destroy them easily; or they become so attenuated in the air, as is the case with carbon-dioxid, ammonia, etc., that they exert no appreciable influence on the health of the animal kingdom. Certain gases, though comparatively dense, diffuse most readily through *wet* membranes, on account of their great solubility; as in the process of animal respiration, the CO₂, which is freely soluble in water, escapes easily thus dissolved, through the wet membranes of the lungs.